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An Address.¹

By R. B. WADE, M.D., Ch.M. (Sydney),
*Retiring President of the New South Wales Branch
of the British Medical Association.*

THE time has come for me to vacate the high position I have held in the Association for the past year and the time when you are compelled to hear something in the way of a valedictory address.

I should like to thank you for the honour you have done me in electing me as your President and also for the unflinching courtesy and consideration that have done so much to make my duties easy and pleasant.

I am pleased to say that the year has been an uneventful one as far as purely local affairs are concerned. Perhaps of the business of the Branch that will bear most interest to our country members, is the institution of what will be known as "B.M.A. Lectures." They will, I trust, be a commencement of what will later go far to fill the lack that is now

unavoidable, namely the provision of scientific meetings and discussions for our country members.

As regards the wider outlook of medicine in Australia, there have been three epoch making happenings, the interim report of the Royal Commission on National Insurance, the report of the Royal Commission on Health and the visit and report of Dr. McEachern on the hospitals and hospital systems of Victoria and New South Wales.

National Health Insurance.

One feels as political feeling at present runs in this country, that some scheme of national insurance is inevitable and it seems to be the general opinion in the United Kingdom that, though the scheme at work there has brought about great improvements, it still is not ideal and that it should include some scheme with widespread provisions for the prevention of disease. We are in consequence pleased to find the recommendations of the Commission are on these lines; the main findings may be summarized as follows. The Commissioners are of the opinion that casual sickness, permanent invalidity, old age and maternity should be provided for: (i.) Under a national insurance fund in which provision is made for definite financial assistance to insured members

¹ Delivered at the annual meeting of the New South Wales Branch of the British Medical Association on March 25, 1926.

which will relieve the economic stress occasioned by such circumstances; (ii.) under a national health scheme which will aim at adequate medical treatment for the people and which will provide the requisite machinery for the prevention of sickness and accident.

The Commissioners further recommended:

That such scheme be dissociated from the administration of the national insurance fund and that the functions and objects of the Health Department be extended in such manner as will enable provision to be made as early as possible for the effective supervision of adequate medical services, especially with respect to maternity benefit.

We can cordially agree with their opinion that the whole scheme of medical benefits for the assured and also due provision of preventive medicine should be under a public health department.

In any scheme of health insurance we must stand for the principle of free choice of medical man by the patient, such as now exists throughout the country, for any scheme that will nationalize the profession or that will bring in undue red tape and machine-like methods, will do the greatest harm in a community where in health as in religious matters the personal element commands such importance.

Preventive Medicine.

Next comes the report of the Commission on Health, the personnel of which was mainly from medical members of the Federal Committee of the British Medical Association, a committee wisely chosen, which could be relied upon for a sound selection of methods in their recommendations. These have been based on their expert knowledge and a suitable scheme has been given us, though we must recognize that their scope has been somewhat hampered by the fact that the Commonwealth for whom they have acted, has but limited powers in Australia over health and administration, being confined in large measure to matters of quarantine. The Commonwealth cannot take up a mandatory attitude towards the States; its function can only be of an advisory nature, but it can give financial assistance to those bodies that adopt health measures on the lines of its announced policy.

May we hope that the central Government may prove to have a purse both long and deep for such assistance when the public health of Australia is considered. This is the only practical way of procuring some coordination and parity in health matters amongst the different States.

The Royal Commissioners on Health state:

A statement prepared by our Secretary shows that differences exist in the health legislation and administration of the different States and in the efficiency of the methods adopted for the prevention of disease.

In New South Wales health administration was at first wholly central. The *Health Act* of 1902 placed the administration under local authorities and provided for the appointment of whole-time district medical officers of health. Up to the present only two appointments of whole-time district medical officers of health have been made outside Sydney. In the other States the administration was put in the hands of local authorities who could appoint part-time local medical officers of health, with supervision by the central health department which had power to act if the local authorities failed (as is also the case in New

South Wales). In Victoria, under the *Health Act* of 1919 the State has been divided into districts, each under the supervision of a district medical officer of health and part-time medical officers of health have also been retained acting for the local authorities independently of the district medical officer of health. In neither New South Wales nor Victoria is the district medical officer of health in charge of all the health activities of the district.

Experience has shown that none of these systems is wholly satisfactory. The prevention of the outbreak of disease depends partly on control of the environment in which the community lives and partly on the supervision of individuals themselves. The State Health Departments were formed at a time when the greatest emphasis was laid on control of the environment for the prevention of disease. Their activities have therefore been mainly directed to sanitation, especially of premises and food. Recent developments in the prevention of disease have been in the direction of greater supervision of the individual life, but the resulting health activities have not in most of the States become a function of the Health Department, but have been assumed by other bodies, many of which are voluntary. Not only are these in many cases free from supervision by the Health Department, but control is frequently vested in laymen with no medical training and therefore without a full appreciation of the problems involved. The result has been that health administration has often been made subservient to political, municipal and vested interests, instead of being, as it should be, regarded as of the utmost importance.

All medical men must feel the great and urgent need there is for some comprehensive policy to be adopted in matters of prevention of disease and preservation of health and in such an important matter to the community no strictures can be severe enough on the Governments that have neglected such a vital matter to the body public, however much we may realize that their funds are circumscribed and we trust that now a scheme has been put forward to the Commonwealth Government, that it will bear fruit and not suffer the fate so commonly accorded to such reports, namely to be relegated to the obscurity of a remote pigeon-hole; should this happen in all or in part, it should be the duty of the medical profession throughout Australia to use all their available influence to help the principles of this report to be carried into action.

We may feel that this report is good and practicable; some of us may differ in detail on some points, but taken as a whole, it is one that will have our support as a measure of good to the community and if action is taken by the responsible body the Commonwealth Government, assisted by the cooperation of the State Governments, the practical results must and will be great.

We must remember, however, that the health of a community depends, too, on many matters that are at present outside medical jurisdiction, in which it must be necessary to have public health administration closely associated if we wish to get the best results, I refer to town planning, with the provision of playgrounds and open spaces; we should not have to see, as we now do, open parks fenced off from the general public so that the local governing body may reap some revenue from them by letting them out on rare occasions as sports grounds. Housing, too, provides one if not the greatest problem governing the health of the community, as does that of the question of alcohol and public house control.

The Hospital Question.

More attention is now being given both by Governments and the public to the necessity of reorganizing present methods of hospital finance and administration and we welcome the visit of Dr. McEachern and his inquiry into our hospital system. We trust that as a result of his investigations there may be some satisfactory, comprehensive scheme initiated in New South Wales.

He has told us that the system in our sister State, Victoria, is, he considers, the best in the world and he has laid special stress on the fact that it is controlled by an independent board, free from all political and other influences. May we hope that as an outcome of his representations we may have something similar introduced here with a system that will link up and coordinate all hospital activities, stop all overlap and see that in all cases of illness, no patient will be debarred by poor hospital facilities or long distances from receiving full access to all varieties of medical diagnosis and treatment.

Another suggestion made by Dr. McEachern is that all public hospitals should include in their system private and intermediate wards or annexes. His reasons for this are first, that the large hospitals will necessarily have the best equipped diagnostic departments, and therefore all patients will be able to have access to the best that can be procured, further that the private hospital is a legitimate way of earning revenue for the upkeep of the public hospital and that the intermediate hospital, though not in itself a paying venture, will, by its use of the special departments, such as the X ray and pathological, help to pay or pay the expenses of this department of the public hospital.

I feel that with us there is a need for intermediate hospitals, for it is true that that section of the community who are neither rich nor very poor, are not at present well catered for and yet it should be possible for these people like the very poor to have access to the best at reduced fees suitable to their finances.

An interesting side issue is told by Dr. McEachern as to the influence of private wards in public hospitals, in that it is found that the eyes of the wealthy private patients are thus often opened to the needs of the public hospital, with the result that large bequests are given by them to the public hospitals, often for some specific purpose, such as research work.

We trust that the advice given to our Governments in these three reports will in some measure be acted upon and that some systematic attempt may be initiated to care for the health of the community.

A Generous Offer.

I should like to mention the generous offer of Dr. Gordon Craig to the University of Sydney for the endowment of a fellowship in urology.

As you know a department of urology has recently been established at the Royal Prince Alfred Hospital and Dr. Craig, who is the Senior Surgeon in charge of it, has given £300 for each of the next three years,

to initiate a fellowship of urology whereby each year a young graduate of medicine is enabled to embark on a special study of urology combined with research work on the subject. This study will extend over a period of three years and the student is financed by this scheme to the extent of £100 per year. In addition Dr. Craig has built and equipped and will maintain a research laboratory for this period. Finally, should the scheme be a success, he will hand over the laboratory and give a permanent endowment to the University for the maintenance of this fellowship each year, a generous gift in the neighbourhood of £20,000.

Not only is the endowment a splendid one in the monetary sense, but it will have added value in that Dr. Craig will be for the next few years, in charge of the Urological Department and will be enabled to guide and foster the scheme and so insure this endowment becoming of the utmost value.

ON THE TREATMENT OF GENERAL PARALYSIS OF THE INSANE BY MALARIA.

By REG. S. ELLERY, M.B., B.S. (Melb.).

Medical Officer, Mental Hospital, Sunbury, Victoria.

EMPIRICISM has played a large part in the evolution of medicine and, though deprecated by the ultra-scientific, must always find a place in experimental therapy, so long as cause is preceded by cure. While psychiatry is in its infancy and the aetiology and pathology of the psychoses and organic diseases remain riddles before which the clinician stands perplexed, any treatment which in any way alleviates the severity of mental disorder, although entirely empirical, must claim the attention and recognition of medical men.

For more than a hundred years through the pioneer work of Haslam, Esquirol and Bayle, general paralysis of the insane has been recognized and diagnosed; but until recently no form of treatment has done more than emphasize what appeared to be the innate incurability of the disease. Once entrenched within the cerebral substance, the spirochæte has proved invulnerable and no method has yet been devised by science which would dislodge the poisonous plasmodium. But the experiments of Dr. Wagner-Jauregg, of the Psychiatric Clinic in Vienna, have given us a method of treatment which has greatly altered the prognosis of this disease. Following the Hippocratic principle of acute febrile diseases modifying mental symptoms, he inoculated in 1917 nine patients suffering from general paresis. The results were most encouraging, three of the patients, it is claimed, being alive and at work today, eight years after treatment.

Naturally the application of this form of treatment soon spread beyond Vienna and many investigators in England and on the Continent have published their results which, while not showing such a large percentage of "cures" as that claimed by

Wagner-Jauregg, have at least verified his main contentions.

Dr. W. McAlister,⁽¹⁾ of Morningside, and Dr. A. R. Grant,⁽²⁾ of Whittingham, were among the first to use this treatment in Great Britain and have published the results of twelve and forty cases respectively. While admitting instances of undoubted improvement, these investigators both failed to obtain the favourably high percentages of Continental "cures." At a later date Dr. T. Wishart Davidson,⁽³⁾ of the Winwick Mental Hospital, in his series of fifty-three cases of malarial treatment achieved a complete remission in 13.9%, while 16.9% and 32% manifested considerable and slight improvement respectively. Dr. G. A. Lilly,⁽⁴⁾ of Hanwell Mental Hospital, in a series of thirty-six cases obtained a successful issue in 27%.

Dr. Norman Graham,⁽⁵⁾ writing last year in *The Journal of Mental Science*, classified the nine hundred and ten reported cases of general paresis then treated by malaria in various hospitals and clinics into three groups. He finds that 33% can be characterized as greatly improved, 20% as showing a good remission and capable of employment, while 32% belong to the unimproved or slightly improved group. Death accounts for 15%. In the first and largest group are patients who have been discharged from hospital and are so much improved as to be able years after to follow their usual civil occupations.

Patients Treated at Sunbury.

In Australia the number of certified general paralytics appears to be less than in England and on the Continent. In the State of Victoria, where the incidence of insanity is greater in proportion to the population than in any other State, there were in the year 1924 only forty-six cases out of a total of 6,096. In the State Mental Hospital at Sunbury in the year 1925 there were only ten cases of general paresis out of a total of approximately one thousand insane. Of these ten patients only six were deemed suitable for treatment, as of the remaining four three were in the most advanced stages of dementia and in rather poor physical health and the fourth patient, H.A.W.S., noted below, was a malarial subject, the course of whose disease was under separate observation. Difficulty was experienced in obtaining samples of malarial blood, as the number of fresh malarial cases or those who had not been previously treated with quinine appears very small. But by collaboration with the Medical Superintendent of the Melbourne Hospital a new patient with benign tertian malaria was ultimately found.

Method of Treatment.

The method of treatment followed was that used by the English investigators already mentioned. From the median basilic vein of an untreated malarial patient at the height of a pyrexial period, two to three cubic centimetres of blood were withdrawn into a syringe previously sterilized and washed out with a solution of sodium citrate. The blood was then immediately injected either sub-

cutaneously or intramuscularly into the general paretic at a site just internal to the angle of the scapula. After an incubation period varying from ten to twenty-one days the expected febrile attacks and rigors appeared and fresh patients were inoculated from the first recipient by a similar procedure.

When necessary to curtail or terminate the treatment the patient was given 0.3 gramme (five grains) of quinine sulphate in tablet form three times a day for three days. The patients were allowed, so long as their general physical condition warranted, to have ten or twelve rigors at the end of which time the quinine was given. From the very first day of the quinine administration the rigors ceased and the temperature remained below normal and only in one instance did a relapse occur, which was easily stopped by a further administration of quinine.

Case Histories.

The following are short summaries of the six patients treated:

CASE I.

D.P.F., aged thirty-nine years, was admitted to Sunbury on April 22, 1925. He was a general paretic, agitated and exalted, of low intellect and with considerable mental dilapidation. He was inoculated with malaria on May 26, 1925. The incubation period was twenty-one days. His temperature rose to 40.5° C. (105° F.) each day, although the rigor occurred only every second day. As his physical condition was becoming very poor, it was thought wise to terminate the treatment after the fifth rigor. Convalescence was rapid and complete, but his mental condition did not improve and he now exhibits progressive dementia.

CASE II.

A.R.M., aged thirty-three years, was admitted to Sunbury on August 23, 1923. He was a general paretic with slowly progressing mental enfeeblement and with advanced physical signs. He was inoculated with malaria on June 15, 1925. The incubation period lasted twelve days. After the third pyrexial period he had a series of epileptiform seizures and died.

CASE III.

A.T.D., aged forty-three years, was admitted to Sunbury on March 6, 1925. He was a general paretic, exalted and very agitated and destructive, with dirty habits. His physique was poor. On June 20, 1925, he had an injection of three cubic centimetres of malarial blood from patient D.P.F., whose temperature was 39.4° C. (103° F.) following a rigor. The incubation period lasted ten days. The fever was quotidian in type. The temperature rose to 40.5° C. (105° F.) each day and on two occasions reached 41° C. (106° F.). After ten rigors the patient was given quinine. Within a month of the treatment this patient's mental condition manifested definite improvement; he became a trustworthy and willing worker. He was finally sent out of hospital on trial leave and has remained well so far.

CASE IV.

F.W.M., aged thirty-six years, was admitted to Sunbury on May 23, 1924. He was suffering from tabo-paresis. The characteristic physical signs were prominent; he was quite lacking in judgement and had no insight into his condition. He was inoculated with malarial blood from D.P.F. on July 2, 1925. The incubation period lasted ten days. The fever was of an irregular quotidian type. After six daily rigors his health commenced to give way and the course was terminated. Convalescence was slow, as great difficulty was experienced in getting him to eat. Mental improvement also took place very slowly; but today he is very much improved and for some time now has been fit to leave hospital.

CASE V.

L.G.W., aged thirty-three years, was admitted to Sunbury on April 8, 1925. He was suffering from an advanced stage of general paralysis, having had several previous admissions to hospital and an insane heredity. He was inoculated with malarial blood from A.D.T. on July 9, 1925. The incubation period lasted fourteen days. He had only one rigor and then contracted lobar pneumonia and died.

CASE VI.

D.F.C., aged forty-six years, was admitted to Sunbury on January 16, 1925. He was a general paretic exhibiting great exaltation. He was restless, destructive and dirty. As he became more demented his mind and habits grew excessively foul. On July 27, 1925, he was given an inoculation of malarial blood. The incubation period lasted thirteen days. The temperature chart indicates a somewhat quotidian type of infection; but the situation of the rigors is irregular. He was allowed to have ten rigors and then the course was terminated with quinine. He was very thin and cachectic, but very quickly put on weight and improved in health. As he improved in health his mental condition became better and though at first slightly euphoric he was a willing worker and a trustworthy patient. He was finally sent out of hospital on trial leave and has remained out ever since.

Results.

Convalescence was usually of short duration and recovery, in the successful cases was rapid. There was after the usual series of rigors a definite anaemia. But the appetite was generally good and though the patients had lost weight and were considerably weakened, with a liberal diet of good food they quickly gained weight and lost all traces of anaemia.

Mental improvement followed quickly on the heels of physical improvement. Delusions disappeared. Filthy habits became normal and the patients became amenable to reason and conscious of the social conventions. Exaltation subsided into a mild euphoria and the feeling of well-being was manifested in a desire to become useful. The two patients who derived most benefit from the treatment, showed a willingness to work in the wards and a keen desire to be discharged and take up again their civilian responsibilities.

Discussion and Conclusions.

If it is not a matter of some scientific importance to attempt to draw conclusions from the results of so few cases, I would mention that:

1. The earlier the malarial treatment is commenced in the stage of the disease the greater is the success to be gained. Naturally with an organic disease like general paresis no form of febrile therapy can replace or patch up actual neuronie degeneration and little can be expected in any form of treatment from patients who have reached the advanced stages.

The onus therefore rests on clinicians and those in general medical practice to recognize cases of general paresis in their very earliest stage and recommend treatment at once, rather than wait until the patient's behaviour renders certification and segregation in a mental hospital necessary.

2. The type of malarial symptoms does not appear to alter the ultimate results, although my two

patients had rigors almost daily and their pyrexial periods were fairly high.

3. Despite the noticeable mental improvement, the neurological and physical signs in my patients were unaltered. Pupillary changes, reflexes and Wassermann reactions appear to remain the same after as before treatment.

4. Better results seem to appear in the case of exalted and excited patients than in those who are depressed and demented.

5. The treatment can be easily and quickly controlled by quinine administration.

The rationale of the malarial treatment remains a mystery. Many theories have been advanced to explain it, but none so far have succeeded. That the increased leucocytosis is the key to the solution has been plainly disproved by many investigators. But support is given to the theory that the high temperature of malaria causes the death of the spirochaete, as it is known that the plasmodia fail to grow in temperatures over 40° C. (104° F.) and that the chancres of artificially inoculated rabbits disappeared when the animals were subjected to temperatures of 41.5° C. (107° F.) to 42.7° C. (109° F.). A favourite hypothesis, however, is that of the biological antagonism between the malarial protozoon and the spirochaete and there are strong reasons for assuming that in such an hypothesis may lie the true explanation. It is well known that in China, where both syphilis and malaria are extremely common, general paralysis is almost unknown. Pilcz who investigated the histories of five thousand soldiers suffering from syphilis found that 5% had developed general paralysis, while of the remaining 95% every one had had malaria or some other acute febrile disease soon after contracting syphilis.

An interesting case in this connexion is that of a patient at present under observation at Sunbury.

H.A.W.S. was first certified in 1921. He had been suffering from general paralysis for at least two years previously and at the time of his reception at Sunbury he was in a fairly advanced stage. He was euphoric, amnesic and showed considerable mental enfeeblement. His tongue was tremulous and his speech slurring. His pupils were unequal and fixed and his knee-jerks were exaggerated. He had had malaria several times about fourteen years before his admission. At the present day, seven years after the onset of his disease, he remains almost unchanged. He has had neither remission nor epileptiform seizure. His physical signs have remained the same for years. He knows quite well what is said to him and can answer quite coherently, although often irrationally.

The average life of a patient suffering from general paresis, as is well known, is about two to three years and I submit in the light of what has already been said, that perhaps a number of those patients who are known to have had general paralysis for ten years and longer and who in consequence were regarded as exceptions to the general rule, may have owed their otherwise inexplicable resistance to an acute febrile attack, perhaps of malaria, at an earlier stage in life.

The treatment of six cases of general paralysis of the insane by inoculation with malaria, as

detailed above, does not justify the formation of any very fixed conclusions. But it is to a certain extent both gratifying and instructive to be able to compare these few results with those drawn from the treatment of larger numbers in other parts of the world. It is noteworthy also that the percentage of improvements in this small series of cases corresponds fairly closely to those obtained by investigators who were fortunate in having more material upon which to work. For such results show that, while still far from any miraculous "cure," be it in the nature of the laying on of hands or the administration of an alchemist's elixir, we have in malarial treatment a ready means of producing in a large percentage of cases an artificial remission of symptoms for a very considerable period. And this at least is a progressive step in that baffling branch of medicine which appears to have lagged behind so sadly in the onward march of science.

Acknowledgements.

I wish to place on record my indebtedness to Dr. F. H. Maudsley, Honorary Psychiatrist, and Dr. J. P. Ainslie, Medical Superintendent at the Melbourne Hospital through whose willing cooperation samples of malarial blood were obtained. Also I have to thank Dr. John K. Adey, Medical Superintendent at Sunbury, not only for his permission to publish reports of the patients treated, but for his guidance and enthusiasm in the work which was being carried out.

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DIAGNOSIS OF TUBERCULOSIS OF BONES AND JOINTS.¹

By RUPERT M. DOWNES, C.M.G., M.D., M.S.,
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THE diagnosis of tuberculosis of bones and joints may be discussed from the standpoint of the symptoms and signs common to all sites, or from that of the particular clinical picture pertaining to each individual bone or joint that may be affected. The first alternative resolves itself largely into an academic discussion on the phenomena associated with inflammation and the interpretation of reactions to a specific foreign protein, while the

second would be an unprofitable task of inordinate magnitude.

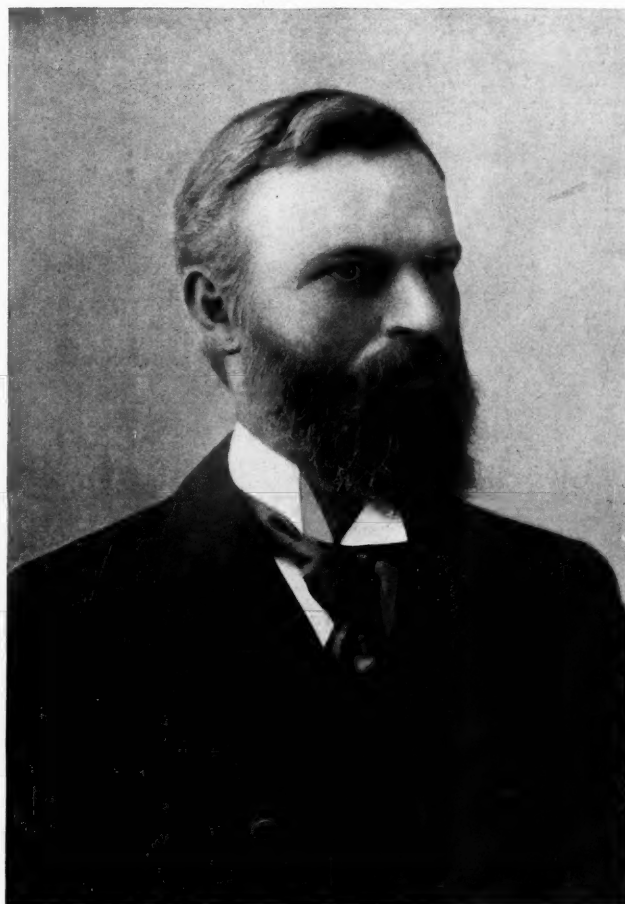
I propose to mention briefly the signs and symptoms common to most forms of skeletal tuberculosis and to consider the diagnosis of affections of the three commonest varieties, namely tuberculosis of the spine, of the hip and of the knee. Time does not permit of discussion of the more uncommon sites such as the shafts of long bones, the tarsal bones or the phalanges of the fingers. It would appear that a discussion more particularly on the difficulties of diagnosis is of most value to us. In this country our acquaintance with all forms of tuberculosis is more limited than in Great Britain. It is partly for this reason that I have thought it preferable in opening the discussion to consider the difficulties in diagnosis that I personally have encountered, rather than to draw largely on the literature. At the same time it will be more advantageous to concentrate on the early signs, as early diagnosis makes so much difference to the ultimate result.

As the incidence of tuberculosis of bones is confined almost without exception to the epiphyseal region (in contrast to syphilis) a distinction can hardly be drawn between the signs due to bone and those due to joint infection. The weight of opinion seems to be that joint tuberculosis as a rule is primarily bony and the joint is affected secondarily. This view is supplementary to the common belief that all such cases are secondary to some other focus in the body, especially a focus in the mesenteric or bronchial glands. At all events the chief manifestation of the affection is by joint symptoms.

The clinical picture of tuberculosis in any part of the bone-joint system is filled almost entirely by the phenomena associated with subacute or chronic inflammation; but the degree to which the signs are recognizable, is to a great extent modified by the amount of tissues covering the diseased structure. Our diagnosis is generally made by a detection of an inflammatory process in a situation and of an intensity recognized by accumulated experience to be most commonly tuberculous in origin. But other diseases produce identical symptoms and therein lies the difficulty of diagnosis. The only conclusive evidence of the action of the tubercle bacillus, obtained by its isolation, by histological findings or by its recovery after inoculation into animals is rarely obtainable until the disease is so advanced as to leave no doubt as to its nature.

Pain while absent, especially in children, is a most constant phenomenon. It may be nearly continuous or less commonly appear only in response to movement, either passive by the examiner or active on the part of the patient; it may be slight or severe, sometimes assuming the distressing form of "night starts" which is given far more prominence in textbooks than its frequency in this country appears to merit. In some situations, such as the spine, the great trochanter of the femur or the olecranon process, pain may be almost absent; but these instances are rare.

¹ Read at a meeting of the Orthopedic Section of the Victorian Branch of the British Medical Association on November 9, 1925.



J. B. Allen

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Equally or more constant is the phenomenon of muscular contraction, generally considered as having a protective purpose. It manifests itself by a limitation of the normal degree of passive movement, by the production of deformity in some situations when a single muscle or group of muscles is in a state of contraction and by loss of active movement, though the last is largely due to pain caused by this movement. This manifestation is the most important from the point of diagnosis.

While these two phenomena denote no more than some inflammatory process in the region of the joint under notice, the appearance of any considerable degree of atrophy of muscle provides strong confirmatory evidence of tuberculosis. It is characteristic of tuberculosis to cause early atrophy not only of muscle but of the bones of the affected limb greatly in excess of that due to loss of function. It must be remembered, however, that a non-specific Brodie's abscess will often cause an extreme degree of wasting. One abscess of the head of the tibia that I have seen, caused such loss of muscle that the affected limb would not support the weight of the body unless the knee were kept fully extended.

Of other signs, tenderness, heat and thickening of joint structures are evident only in those situations sufficiently superficial to allow of their recognition through the overlying tissues.

Changes of form due to destruction of bone and cold abscesses are not early symptoms and therefore are of less value diagnostically; in some instances, however, it is extremely difficult to make a correct diagnosis prior to the appearance of one or other of them.

As an aid to diagnosis we gain considerable help from X rays and in fact the examination of any suspected case can hardly be said to be complete without a skiagram. For while personal clinical methods alone may make us reasonably sure of a diagnosis of tuberculosis in the majority of patients, the exact site of the focus and the degree of destruction can only be ascertained by a skiagram. In very many early lesions of doubtful diagnosis X rays by revealing areas of rarefaction or loss of articular cartilage and thickening of the synovial membrane and capsule furnish evidence strongly in favour of tuberculosis. On the other hand it is frequently in the early stages during which the diagnosis is doubtful, that a skiagram fails to reveal any abnormality of significance. A photograph without evidence of tuberculous lesions, therefore, has no conclusive significance, if it be not in accord with other clinical findings. Often if a further radiographic examination be made after a lapse of a few weeks, it may reveal definite evidence of a localized focus or less definite evidence of a generalized decalcification of the extremities of the bones concerned. Furthermore an X ray examination sometimes has value in revealing a cold abscess not previously detectable. But every skiagram requires close scrutiny. The early case of *osteitis fibrosa* in the neck of the femur, the single bone cyst or the occasional atypical case of tuberculosis associated with sclerosis of bone may deceive all but the very experienced radiologist.

Regarding the use of tuberculin as a diagnostic agent of the specific nature of the inflammatory process, while it fills a large place in the literature of the subject, it is notoriously unreliable and full of pitfalls. The von Pirquet skin test is the most widely employed method; its value lies in the coincidence that the great majority of cases of tuberculosis of bone occur in childhood, the only period in which a reaction has any particular significance. In a very young child a reaction must weigh considerably as furnishing evidence of tuberculosis somewhere, though not necessarily in the joint under suspicion. After the age of five or six its significance becomes much less. The evidence obtained by this test, however, can hardly be regarded as conclusive.

I prefaced my remarks by saying that I intended to speak of matters only within my own experience. In connexion with the diagnostic injection of old tuberculin my acquaintance has been too limited to permit me to have any opinion worth mentioning, but what I have seen of it has not infected me with any desire to increase this acquaintance, quite apart from the supposed danger in its use.

Turning now to tuberculous disease of the spine we find here the symptoms modified by the preponderance of bone over joint structures and the signs of inflammation obscured by its depth from the surface.

Though pain is the rule, it is not uncommon to find it absent, the first sign beyond general ill health being the appearance of a kyphosis or psoas abscess. I have one child under treatment whose parents noticed nothing unusual until while carrying a weight he suddenly developed a kyphosis in the thoracic region accompanied by acute pain. In another child whose first appearance was for operation for an inguinal hernia, the hernia proved a psoas abscess; the only earlier symptoms had been sudden falls on to the ground, for which she had been whipped. Pain is more often absent in children than in adults in whom the onset is inclined to be more acute. In the former general seediness alone, perhaps with rise of evening temperature, is sometimes the only early symptom. At the same time it must be remembered that continued abdominal pain is sometimes spinal in origin. I have recently seen a child with a history of abdominal pain of a year's duration, whose condition was not recognized as tuberculous disease of the spine until kyphosis appeared.

Muscular spasm causing spinal rigidity is the sign on which we rely most for diagnosis. Its manifestations vary in the different vertebral regions, for it must be borne in mind that the possible range of movement in health is not the same in each. In the lumbar region hyperextension and lateral bending are the most prominent movements and loss of them is best tested by grasping the patient's ankles in one hand and extending and bending the trunk laterally as far as possible beyond the other hand which rests on the lower thoracic segment of the spine. Rigidity in this area is not

often difficult to detect, but it is much more so in the thoracic region in which the degree of movement is smaller. In the latter rotation is more prominent than the angular movements and can be tested most conveniently by holding the pelvis of the patient while he is standing upright and asking him to rotate the thorax and head. In some cases detection of rigidity in this region may be extremely difficult; the normal range of movement is so variable. An example of this was in a boy who complained for a long time of pain in this region; no rigidity nor tenderness could be detected and repeated skiagrams failed to reveal any abnormality. After some months while carrying a baby, he screamed and dropped with the appearance of a kyphosis which apparently had been formed at that moment. In the cervical region all movements are free and the early loss of movement in this part makes the recognition of spasm simpler. In relation to spasm we often have the classical pictures in which the child with thoracic disease supports the weight of his trunk on his knees by means of his hands, while all movements of the vertebræ are avoided in various obvious ways or a double torticollis or habit of holding the chin in the hands betokens the sensitive vertebræ which must be protected from movement or injury.

Tenderness of spinous processes on pressure or movement provided that we can be sure that it is real, is a most valuable sign. It may also be elicited with advantage by a sharp tap on the head or downward push on the shoulders when the patient is sitting upright. Swelling and heat are not detectable apart from an abscess nor can muscle atrophy be recognized in the same degree as in the limbs.

X ray pictures should always be taken in two directions, the lateral view more often revealing the altered appearance of the body of the vertebra. But disappointment is not uncommon, since they may fail to reveal early disease before much structural damage has taken place. In children it is not so much the difficulty of deciding on the nature of the lesion in the spine, for diseases causing similar changes to tuberculosis are rare, but the trouble is chiefly to decide in the early stage if it is the spine that is the seat of disease. In adults the differential diagnosis is rather more complicated.

In hip disease the onset is most commonly characterized by a limp and pain is usually present. Numerous conditions produce these two symptoms, some very trivial such as bruising or inflamed iliac glands; in such cases thorough examination and the lapse of time must follow before we can be certain that there is no tuberculosis present. It is particularly in the hip that the phenomenon of intermission of symptoms is so prominent and often so disastrous. I would instance a girl of four who incidentally makes a fine example of the tanning of the skin following two years' complete exposure to the sun. Following the usual injury she presented the early signs of slight muscle spasm and limitation of movement. After a fortnight's rest in bed no abnormality could be detected either by physical

or X ray examination. She was allowed to go about again freely and three months later she returned from the country with a considerable degree of flexion and not a little destruction of bone.

In this region the results of muscular spasm are our most certain diagnostic criteria, but since the condition of pseudocoxalgia or Perthes's disease, as it is most often called here, has been recognized, it is impossible to say definitely whether or not any child has an early tuberculous disease of the hip until an X ray examination has excluded this little understood condition. Though its signs are usually much milder than those associated with tuberculosis, they are sometimes quite as prominent, including shortening and atrophy. So severe were the signs in the boy you have seen tonight, that notwithstanding the typical X ray picture, it seemed at first impossible that it could not be tuberculosis. Then there are such cases as the one of which you have seen the skiagram tonight, in which with a placid history so much destruction of the head of the femur and acetabulum have taken place that the diagnosis remains a matter of doubt; there has been a wide divergence of opinion already as to whether it is a case of pseudocoxalgia or tuberculous disease of the hip.

Regarding atrophy which is usually detectable after accurate measurement, it may be mentioned that in some instances the wasting is more readily detected in the calf than in the thigh. In addition the joint is sufficiently close to the surface to make the inflammatory swelling palpable and Hamilton Russell has drawn attention to a thickening along the groove lateral to the rectus and sartorius muscles or in the femoral triangle over the head of the bone which is very significant.

The knee is a very prominent joint but little hidden by muscles. The most obvious feature when it is affected with tuberculosis is the local evidence of inflammation in the joint, heat, swelling, tenderness and thickening of the capsule and periarticular tissues with early flexion. But notwithstanding this accessibility the diagnosis is frequently doubtful, as the knee is so often the seat of other chronic inflammations. It has to be recognized that the onset occasionally is of an acute type, so that a short history does not necessarily exclude tuberculosis. The child you have seen tonight, had a history of only two weeks' illness when it was first seen with its knee in practically the same condition as it is in tonight. The lack of X ray confirmation of the belief in tuberculosis is not infrequent in children and even guinea pig inoculation may fail to provide proof when there is no evidence of other disease. The lesions are puzzling and difficult to deal with, but it seems that the only sound procedure is to regard them as tuberculosis and treat them with the same precautions as in certain tuberculosis, until some other diagnosis becomes feasible. This applies to doubtful affections of any bone or joint. In a child the loss of time involved in unnecessary rest is of small importance compared to the evils of delay in recognition of a tuberculous lesion.

Reports of Cases.

INFECTIOUS MONONUCLEOSIS.

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IN THE MEDICAL JOURNAL OF AUSTRALIA of November 7, 1925, four cases of infectious mononucleosis were reported by Dr. J. G. Hislop and in the "Current Comment" column of the same issue it was recommended that all such cases be reported, "for only by much study will the nature of the condition be revealed."

Two patients whose histories are now recorded, were attended by Dr. James C. Hughes, who has kindly supplied the clinical details; the pathological examinations were carried out by the writer.

Clinical Histories.

CASE I.—N.K., a female, *etatis* sixteen years, was first seen by Dr. Hughes on March 21, 1921. One month prior to examination she received while surfing a severe blow on the right thigh from a surf board.

The illness began with some bleeding from the gums for a few nights, so that the pillow was often stained in the morning. She felt feverish and "off colour" for a week.

On examination it was found that her temperature was 39° C. (102.3° F.), her pulse rate 96 and her respirations 20. The tonsils were swollen and congested. The naso-pharynx seemed to be obstructed (the patient had great difficulty in breathing through the nose). The cervical glands were slightly enlarged, otherwise nothing abnormal was detected at the examination except a hæmatoma on the inner aspect of the right thigh, undergoing absorption.

She remained in about the same condition for the next few days, the temperature ranging between 37.8° and 39.1° C. (100° and 102.5° F.). On March 26 Dr. Harold Ritchie saw the patient in consultation with Dr. Hughes and suggested the possibility of leucæmia. The blood examination at this date was as follows:

Red cells	4,250,000
Hæmoglobin value	90%
Leucocytes	12,000
Differential leucocyte count:	
Neutrophile cells	16%
Eosinophile cells	1%
Lymphocytes	78%
Large mononuclear cells	4%
Mast cells	1%

The lymphocytes were all large.

A Widal test was carried out at the same time; no agglutination occurred. As a result of the blood examination a diagnosis of acute lymphatic leucæmia was given and the patient was put on arsenic in increasing doses. The patient gradually improved from this date and a blood count on April 10 yielded the following results:

Red cells	4,750,000
Hæmoglobin value	80%
Leucocytes	14,300

There were 23% neutrophile cells and 77% lymphocytes (intermediate in size).

On April 21 there were 4,350,000 red cells and the hæmoglobin value was 80%. The leucocytes numbered 3,800 per cubic millimetre. Of these the neutrophile cells represented 34%, the large lymphocytes 2%, small lymphocytes 58% and eosinophile cells 6%. Even at this date therefore there was a relative lymphocytosis. The improvement was maintained and she successfully weathered an operation for acute gangrenous appendicitis in September, 1922. She has since remained in good health.

CASE II.—W.W., a male, *etatis* eleven years, was first seen on May 24, 1923. The previous history contained nothing of any importance. The patient had been feeling tired and ill for the previous two weeks. His nose

bled on several occasions. At the time of the first examination the temperature was 38.6° C. (101.5° F.), the pulse rate 84 and the respirations 20. His tonsils were swollen and inflamed; the tonsillar gland was greatly enlarged on the left side and slightly on the right; the axillary, inguinal and femoral glands were tender and definitely enlarged. The liver and spleen were greatly enlarged and palpable. A throat swabbing yielded staphylococci and *Micrococcus catarrhalis*, no diphtheria bacilli and no streptococci.

The blood was examined on May 28:

Red cells	4,500,000
Hæmoglobin value	70%
Leucocytes	36,000
Neutrophile cells	16%
Eosinophile cells	0%
Large lymphocytes	58%
Small lymphocytes	26%

The most noticeable feature on examining stained films was the presence of numerous lymphocytes mainly of large size; some very large forms and fragile (immature) cells were seen. A diagnosis of lymphocytæmia in an acute form was made.

On May 30 Dr. Clubbe saw the boy with Dr. Hughes and a grave prognosis was given. Arsenic was exhibited in increasing doses, but little benefit was expected. A "loop-hole" was left in this case, however, after the experience in Case I.

Shortly afterwards the patient began to improve and on June 11 he was up and about. The spleen and liver were now very much smaller, the glands were only slightly enlarged and no longer tender.

A blood count was made on July 17, 1923:

Red cells	5,000,000
Hæmoglobin value	90%
Leucocytes	8,000
Neutrophile cells	36.5%
Eosinophile cells	2%
Large lymphocytes	8%
Small lymphocytes	52%
Large mononuclear cells	1.5%

There was still a high percentage of lymphocytes. In April, 1924, he was in excellent health.

Comment.

At the time of examination of the first patient (1921) the writer was not aware that in cases of glandular fever the blood picture resembled that of acute leucæmia; the textbooks of that date did not mention pathological changes in the blood. One author stated that clinically the cases have to be differentiated from acute leucæmia, but inferred that a blood examination would settle the diagnosis. Another stated that, although there might be pallor, the blood count often revealed no abnormality.

The leucocyte count in this case was low, but this in itself does not exclude acute leucæmia. The clinical manifestations were suspicious of leucæmia and the blood examination appeared to confirm those suspicions.

When the second patient came under observation the possibility of the condition being infectious mononucleosis was considered, but on account of the high leucocyte count the diagnosis of the more serious condition was made.

How then are we to differentiate between the two diseases? I am of opinion that the main guide is to be found in the degree of anæmia present.

In the cases reported above this was slight and in films the red cells did not manifest pathological changes. In Dr. Hislop's series the first patient had a red cell count of 5,100,000, the second 4,106,500, while the third had anæmia, there being but 3,000,000 red cells per cubic millimetre, but this child had been ill six weeks before the blood was examined; the fourth red cell count is not given.

From the fact that Dr. Douglas Fairley in his account of infectious mononucleosis does not mention the state of the erythrocytes, it may be inferred that there was no definite departure from the normal in his cases. In acute leucæmia on the other hand there is usually severe anæmia, when the patient first comes under observation.

Thus Cabot in Osler and McCrae's "Modern Medicine" in his description of lymphoid leucæmia states: "In thirty-four cases the writer found marked anæmia at the first examination of thirty or nearly 90%, while only four cases were recognized some months or years before there was any anæmia," which means, of course, that all the patients in the acute stage had severe anæmia.

The following records of two cases of acute leucæmia illustrate the severity of the anæmia in this disease. Each patient gave a short history of illness.

The first was a boy, seventeen years of age. His blood count at the first examination was as follows:

Red cells	1,290,000
Hæmoglobin value	30%
Colour index	1
Leucocytes	46,000

Of the leucocytes 93% were non-granular cells, the majority being large lymphocytes and "pre-myelocytes"; nucleated red cells were present. The boy died a few weeks later.

The second patient was a youth of twenty years; the count was:

Red cells	1,500,000
Hæmoglobin value	30%
Colour index	1
Leucocytes	14,200
Neutrophile cells	2.5%
Large lymphocytes	55.5%
Small lymphocytes	42%

The red cells revealed the usual changes associated with severe anæmia and numerous nucleated red cells were found.

As regards the ætiology of infectious mononucleosis the cases recorded above do not throw any further light on its true nature. After examination of the blood in Case I. it was suggested that injury to the red marrow in the upper part of the femur had been responsible for the blood changes as leucæmia following on injury to bone has been reported, but whether it is a true cause has not been definitely settled. In view of our further knowledge of the nature of this case possibly the effused blood in the thigh provided a nidus for the growth of bacteria of low virulence which brought about a general infection without evidence of acute inflammation at the site of origin. It may be, however, that the tonsils (or naso-pharynx) were responsible.

In Case II. it seems likely that the infection gained entrance through the tonsils as they were much inflamed and contained patches of exudation.

Reviews.

A GREAT TEXTBOOK ON SURGERY.

In the preface to his book¹ on operative and general surgery Dr. J. C. da Costa compares a textbook on these subjects to Captain Cuttle's watch which had to be put forward at regular intervals to give even the approximate time and again to Roderick Randone's newly acquired bedroom in St. Martin's Lane in which to make room for the new bed most of the old furniture had to be moved out on to the landing. There is no doubt that the author has acted on these principles, for he has omitted many subjects which the student should acquire in the ward and casualty room. A host of surgical friends, many of whose names are familiar, have helped the author in revising the book for its ninth edition; the author himself was seriously ill at the time.

There are one thousand five hundred and twenty-seven pages of letter press with illustrations and forty-four pages of index. Some of the illustrations, such as those of instru-

ments and indeed of some other subjects might perhaps have followed the other furniture on to the landing. They can be found in every surgical instrument maker's catalogue. Over one hundred pages are devoted to fractures. This subject is very well handled, notwithstanding the fact that it is usually dismissed with scant attention in textbooks. The introduction of military caps on the patients' heads in the illustrations conveys the impression that the authors have wished to show how up to date this edition is.

The book contains a large store of surgical wisdom. It has been built up by highly competent writers and teachers and is designed to cover the requirements of the students of the day. Many of the paragraphs are necessarily somewhat compressed. In the process of revision and reselection the sacrifice of details as well as of subjects has become essential. It has some defects, as indeed all large books of this nature must have. The authors have been unwise in devoting twenty pages to half-tone illustrations with descriptive legends depicting the various life-saving exercises taught by every life-saving association and to the majority of schoolboys. Other criticisms could be made of a similar nature, but it is only fair to state that the defects are largely those of the retention of matter that could have been eliminated without loss of utility. The student will discover in its pages information concerning all the branches of operative and general surgery that are included in his syllabus. It is a book to be recommended, not merely because it has already stood the test of time, but because its teaching is sound and comprehensive.

A TEXTBOOK ON PHYSIOLOGICAL CHEMISTRY.

C. J. V. PETTIBONE's book on physiological chemistry is a textbook for intermediate students in this subject.¹

It is divided into two parts, the first being a theoretical part and the second consisting of laboratory exercises on the subjects discussed in the corresponding chapters of the first part.

The order of the matter in the book is excellent. The book commences with a chapter treating on some of the principles of physical chemistry with which the biochemist has to deal, such as osmotic pressure, hydrogen ion concentration and acidity and the properties of colloids *et cetera*. All of these are treated in an interesting and instructive manner and a suitable series of experiments is given in Part II. to illustrate the work.

The student then passes on to the chemistry of the carbohydrates, the fats and allied substances and the proteins. There is a chapter on foodstuffs and important tissues, including a general account of the blood followed by descriptions of the processes of digestion, absorption and of the excretion of waste products. Finally there is a section devoted to metabolism, in which are discussed the various changes which the chief constituents of the food undergo in the body. This section is very thoroughly done and should prove a very useful guide to the student.

It is a pity, however, that the author still employs the alcohol-aldehyde formula for the simple sugars and makes no mention of the modern view that monosaccharides in solution occur as a carbon-oxygen ring, only traces being present in the open-chain form. On the other hand this carbon-oxygen ring is given in the formulæ of the disaccharides without any explanation in the text, so that it is difficult for the reader to understand the constitution of these compounds.

The formula assigned to lactose is also out of date. Another point which is deserving of criticism, is the inclusion of the sections on the microchemical analysis of blood and urine. If the methods are to yield results of any value, a degree of manipulative skill is required out of proportion to that necessary for the rest of the practical work in the book. They seem therefore quite out of place in a book of this standard.

¹ "Modern Surgery: General and Operative," by John Chalmers da Costa, M.D., LL.D., F.A.C.S.; Ninth Edition; revised and reset; 1925. Philadelphia and London: W. B. Saunders Company. Melbourne: James Little. Crown 4to., pp. 1,527, with 1,200 illustrations. Price: 50s. net.

¹ "An Intermediate Textbook of Physiological Chemistry with Experiments," by C. J. V. Pettibone, Ph.D. Third Edition; 1925. St. Louis: The C. V. Mosby Company. Demy 8vo., pp. 404. Price: \$3.25 net.

The Medical Journal of Australia

The Commonwealth Department of Health.

SATURDAY, APRIL 10, 1926.

IN his admirable address to the New South Wales Branch of the British Medical Association Dr. R. B. Wade, the retiring President, refers to the Commonwealth Department of Health as being largely concerned in quarantine and having funds at its disposal for the furtherance of preventive medicine. The function of the Department of controlling human and animal quarantine need not concern us at present. The Department has no jurisdiction in regard to measures for the general protection of the public health in the six States nor has it any constitutional powers in connexion with the administration of the health laws save when Australia as a whole is threatened by certain dangerous infective diseases. But the Department as part of the Federal Ministry is deeply concerned with the welfare of the community and despite its restricted scope of activity it has taken a prominent part in the war against certain of the commoner diseases. The purpose of the Royal Commission on Health was to inquire into and report upon public health as a matter for legislation and administration by the Commonwealth. The Royal Commissioners apparently regard with approval the development of special divisions of the Commonwealth Department of Health to deal with national health problems that come under the direct purview of the States. It is true that the prevention of disease is largely a matter of money. Immunity to many diseases can be bought, although the price in many instances is very high. Hitherto the Federal Government has been prepared to bear a substantial portion of the cost of campaigns against selected diseases provided that the States adopt a uniform policy. It is a case of the man who pays the piper, calling the tune. This principle can be applauded only if the measures chosen by the Commonwealth Department are sound and applicable to all parts of

this vast island continent. Moreover, it must not be forgotten that it is the people who find the money. The Government, whether Federal or State, is after all but the agent of the people. When we state that health is purchasable at a price, we should add a qualification. In a free country resort to compulsion is had only on rare occasions and for desperate emergencies. To combat a preventable disease the coordinated effort of many highly trained persons is required and each citizen must be prepared to take a part, be it active or passive or both. In order that health may be purchased, use must be made of every established fact concerning the aetiology and epidemiology of infective processes and concerning the pathology and pathogenesis of the non-infective diseases. This implies a careful survey of the world's experience and continuous experimentation under some competent controlling authority. The Royal Commissioners have advocated the establishment of divisions of the Commonwealth Department of Health for epidemiology and for tuberculosis, the institution of model health campaigns, the holding of conferences of divisional directors and State representatives on particular chapters in preventive medicine, the multiplication of laboratories for diagnostic tests and research and other measures. They have deemed it advisable to deal with tuberculosis and venereal disease in greater detail. The proposals to amend the *Invalid Pensions Act* to provide relief for the dependants of patients in sanatoria and to extend the system of clinics for the treatment of persons suffering from venereal disease may be regarded as examples of the types of action advocated. These activities would fit in with their model scheme. According to the complete plan the Commonwealth Department would be required to play an important and indeed a leading part. It would of necessity involve a thorough revision of the existing legislation and the adoption by the several States of laws based on common principles and varied to meet the peculiar local circumstances. The Commissioners state that the assistance of the Commonwealth would be indirect and that the proposed changes in legislation and practice could be achieved only by gradual stages.

Before any practical support is given to these proposals, it is necessary to consider in full detail

the extent and nature of the influence which the Commonwealth Department would be required to exercise. We have already called attention to the recommendations of the Royal Commissioners concerning the manner in which the States could participate in the discussions on the plans of campaign. The people who find the money, cannot dictate the conditions of the combat; no one but an expert in hygiene can possibly conduct the operations or determine the principles on which they are to be based. The Royal Commissioners regard the Commonwealth authority as the best coordinating body of experts and would invest it with powers of initiation. They recognize that the States must shoulder the responsibility for the actual administration and therefore they have devised means to enable the State health authorities to collaborate with one another and with the Federal health authority. It may be thought that this multiplicity of authorities would spell discord and ultimate failure. On the other hand, under existing conditions it would be difficult to devise a simpler scheme. But if the plan be accepted as sound, why should we be content with a gradual adoption. Why not at once?

Current Comment.

ABNORMAL CONDITIONS OF THE THYROID GLAND.

In a recent issue we gave a *résumé* of work published by Dr. G. S. Williamson and Dr. Innes Pearse on the activity of the thyroid gland.^{1 2 3} These two observers hold that the functional activity of the thyroid gland is twofold. The epithelium undergoes a colloid phase during which vesiculation takes place and colloid is formed and after passing through a resting stage, it undergoes a secretory phase during which the true secretion of the gland is produced. The two phases are distinct. Colloid is not "secretion." Colloid is probably a vehicle for the conveyance of some metabolite to the body tissues. The secretion is absorbed by the lymphatics for use in the body and it is conveyed for storage to the thymus and parathyroid glands.

The application of these findings to various abnormalities of the thyroid is of interest and if the findings prove to be correct, it will not only

remove many difficulties which at present confront the morbid anatomist, but will revolutionize some of the views already accepted. In one of their communications these authors discuss the pathology of the different forms of goitre and classify them according to the occurrence of hypertrophy, heterotrophy, hyperplasia and heteroplasia. They describe the various manifestations of the gland under these conditions in terms of the twofold function and refer to the names by which they are known in the literature. In another communication they discuss disorders of the thyroid according to their dependence on errors in secretion or in colloid formation or in both. It is obviously impossible to make adequate reference in this place to the whole of their work. It must suffice to review their findings in regard to such important subjects as Graves's disease and the general function of the thyroid gland.

Primary Graves's disease is identical with a heterotrophic goitre called by Dr. Williamson and Dr. Pearse adenoid goitre. In 100% of cases adenoid goitre manifests the full syndrome of Graves's disease. The thyroid in this condition is a non-colloid forming gland. Secretory activity is carried so far that colloid storage is excluded. Although in every case of adenoid goitre the full clinical manifestations of Graves's disease are present, the reverse is not true. It will be seen later that Graves's disease may arise as a secondary manifestation. Three stages of adenoid goitre may be recognized. In the first stage the tissue is uniformly in a state of secretory activity, while the physiological factor of vesiculated colloid or colloid storage is absent. According to the studies of the authors the circulation of colloid is essential for the balanced action of the gland. They conclude that absence of colloid reserve inhibits the proper production of secretion and prevents it from exercising its normal effect. Boothby has suggested that this defect may be due to lack of available iodine with which colloid is known to be associated. Moreover, the benefit often following on the administration of iodine in Graves's disease is well known. The disturbance in such a gland from a histopathological point of view is a secretory dysthyroidism. The second stage of adenoid goitre consists in the filling up of the follicles and they may be seen microscopically to be choked with secretion. As a result of this the secretion is probably forced through unusual channels. The condition is analogous to the jaundice following choking of the bile passages in the liver. The second stage is characterized clinically by exacerbations of acute symptoms. They represent the addition of a thyrotoxicosis to the initial exophthalmic syndrome and this is probably due to the regurgitation of secretion from choked follicles into the blood stream. The third stage of adenoid goitre begins when a diffuse fibrosis of the walls of the sinusoids circumscribes the follicles in an impermeable manner. The blood capillaries lie between the fibrous wall and the epithelium. Evacuation of secretion through normal lymphatic channels becomes impossible; presumably the blood channels subserve this purpose. Thyreo-

¹ The British Journal of Surgery, January, 1926.

² The Journal of Pathology and Bacteriology, April, 1925.

³ The Journal of Pathology and Bacteriology, October, 1925.

toxicosis thus becomes continuous and clinical exacerbations of symptoms do not occur. It is in this stage that partial extirpation of the gland is found to be satisfactory. By the operation a mass of gland substance is removed containing within its fibrotic follicles perverted toxic secretion. Surgery accomplishes more quickly what Nature was doing slowly by atrophy and exhaustion of the epithelium. Thus it will be seen that primary Graves's disease presents to the clinician a threefold sequence, an exophthalmic stage, a superadded exacerbative and thyreotoxic stage and a more or less continuous thyreotoxic stage proceeding to atrophy and exhaustion. The word "primary" is used in connexion with this disease as indicating that its cause is extrinsic to the gland. This conclusion has been formed by Dr. Williamson and Dr. Pearse as a result of their study of the thymus gland. At no stage in adenoid goitre does the thymus contain an excess of lymphocytes, although it is enlarged. It is in its endothelioid phase. It is not being called upon to store any excess of the secretion so obviously being produced in the thyroid gland. Thus all the viciously produced secretion is being utilized as it is produced and the supply and demand of secretion are exalted to a pathological degree.

In describing the stages of primary Graves's disease, Dr. Williamson and Dr. Pearse use the term "thyreotoxicosis." It is necessary to point out as they do, that there is a form of thyreotoxicosis unassociated with exophthalmos. Thyreotoxicosis is always secondary to some gross primary lesion which reduces the functioning power of the gland. Loss of thyroid substance causes a relative increase in the stimulus to secretion. In primary Graves's disease the demand is not relative, it is overwhelming and absolute. In simple thyreotoxicosis the condition is focal. Colloid does not disappear from the whole gland, it remains in sufficient quantity to serve the body function. The amount of secretion becomes greater than the gland mechanism can eliminate. It is pent up in the follicles and overflows as a disturbing "toxic" substance.

Simple thyreotoxicosis is important, because it may lead immediately or eventually to secondary Graves's disease. The process in the latter condition is the reverse of that found in primary Graves's disease. A simple thyreotoxicosis of an exacerbative type results from a destructive lesion of the gland. A fibrosis takes place as in primary Graves's disease (adenoid goitre). The fibrosis shuts off the secretion and leads to a continuous thyreotoxicosis. At the same time the fibrosis shuts off the colloid and renders it unavailable for function or circulation. The exophthalmic syndrome completes the cycle. The resulting goitre, according to the classification of Dr. Williamson and Dr. Pearse, is situated in a heteroplasic gland. The condition is a primary intralobular fibrosis.

The clinical picture is identical in primary and secondary Graves's disease. The difference is that in the primary form no colloid is present in the gland; in the secondary form colloid is present,

but is shut off by fibrosis and is unable to exert its function. Dr. Williamson and Dr. Pearse in discussing this aspect of the question state that the essential difference between primary and secondary Graves's disease is to be found in a critical examination of the relation of the demand made upon thyroid activity to the capacity for response in that tissue. In primary Graves's disease there must be postulated an inordinate demand arising from a source which cannot at present be determined, upon a normal and willing thyroid gland. In secondary Graves's disease the condition is one of a normal demand upon a previously injured thyroid gland. They suggest that the demand in primary Graves's disease may arise in some metabolic disorder analogous to and as intricate as that which underlies the disorder of carbohydrate metabolism in diabetes.

Dr. Williamson and Dr. Pearse wage war on the term "hyperthyroidism" in connexion with these two forms of disease. They point out that in primary Graves's disease the process is a dysthyroidism in that it occurs only in a pathological gland in which there is no stored colloid. In the early stages of the disease this is of extrinsic origin, later on it is an intrinsic effect. Furthermore, when the gland is choked with secretion it is an inefficient gland, incapable of compensating for any demand. In other words a degree of hypothyroidism must exist and this must be accentuated by demands made on the glands. Hypothyroidism (not hyperthyroidism) exists in the presence of dysthyroidism. That is to say, "there is an insufficiency as well as an inefficiency of the secretion." In this connexion it will be necessary to determine what the word hyperthyroidism means. If the "secretion" represents the active product of the gland and colloid is a vehicle for a metabolite, then it would be justifiable to hold that hyperthyroidism must occur when the secretion is formed in excess. If, on the other hand, the activity of the gland is twofold, then clearly there is dysthyroidism. At the same time the demand for secretion cannot be met and there is inefficiency or hypothyroidism.

Dr. Williamson and Dr. Pearse in their conclusion express the opinion that early Graves's disease is apparently a disease of that function over which the thyroid presides. In other words the unsatiable demand for thyroid secretion arises outside the gland in some abnormal state or condition which is usually controlled by the thyroid. Secondary Graves's disease is primarily an affection of the gland itself and only affects incidentally the function of the body over which the gland presides. This function must be discovered if the thyroid problem is to be solved. The interesting statement is made that had the endocrine secretion insulin been the first discovery in the function of the pancreas, the precise position of the pancreas in relation to digestion might still be awaiting solution. Dr. Williamson and Dr. Pearse suggest in effect that the thyroid gland has a major as well as an endocrine function.

Abstracts from Current Medical Literature.

BACTERIOLOGY AND IMMUNOLOGY.

Quantitative Relations Between Antigen and Antibody in the Precipitin Reaction.

H. W. CROMWELL (*Journal of Infectious Diseases*, October, 1925) has studied the quantitative relations in the precipitin reaction. He used crystalline egg albumin, sheep, human and chicken hemoglobin as simple antigens and sheep's serum as a complex antigen. The immune sera were obtained from rabbits and the flocculation method for the study of the antigen-antibody reaction was used. It was found that when two or more specific precipitating sera are tested against the same antigen, they all react with the same dilution of the antigen regardless of the strength of the sera. This occurs only if the antigen used is a simple one. It is possible to calculate the antibody content of a serum with considerable accuracy when by test the antigen titre and point of maximum precipitation have been determined with one dilution of serum, since the point of maximum precipitation represents approximately equal numbers of units of antigen and antibody. With a complex antigen these relations do not obtain. It appears, from the author's observations that neutralization of antigen by its specific antibody in the precipitation reaction follows the law of multiple proportions.

Results of Specific Treatment in Cases of Hay Fever Due to Ragweed.

FRANCIS M. RACKEMANN, LILLIAN B. GRAHAM and MARGARET A. SCULLY (*Journal of Immunology*, February 1926) have recorded in two papers the result of their observations in the treatment of hay fever due to the pollen of ragweed. The extract of ragweed pollen was prepared according to Coca's technique with the buffered saline phosphate extracting fluid described by him. Treatment is begun each year about six weeks before the onset of the hay fever season. The first dose is based upon the results of tests made on the arm by scratching through drops of dilutions of ragweed pollen extract. The first dose consists of that dilution which gives a negligible reaction. Further doses are given subcutaneously at intervals of five to seven days in amounts which depend entirely upon the local reaction to the previous dose. The object is to produce each time a local reaction with redness, swelling and itching, varying in size from 2.5 to five centimetres (one to two inches) in diameter; this reaches a maximum in about twelve hours. The treatment is continued until after the usual date of onset of hay fever and is stopped when the patient remains free of symptoms at a time when other individuals are suffering. While the

writers' results, so far as affording complete relief is concerned, are not as good as those of other observers, the total of all satisfactory results is about 75%; this represents the chances of relief which the average person may expect. It was noted that in the majority of cases the routine treatment in one season had but little effect upon the degree of hypersensitiveness at the onset of the next season. Similar courses in different years are followed by similar end results. It appears that success in treatment demands a course of doses of a size and extent which are optimal for the individual.

Serological Studies on the Blood of the Primates.

K. LANDSTEINER and C. PHILIP MILLER, JUNIOR (*Journal of Experimental Medicine*, December, 1925) report in a series of three articles the result of their serological investigations into the blood of the primates. The procedure chiefly followed was the precipitin reaction, but the hemagglutinin titre of antierythrocyte sera on the blood cells of man and monkeys and the determination of the fraction of agglutinin remaining after absorption by red blood cells of the various species were also investigated. It was found that by means of hemagglutination a clear cut differentiation between the red blood cells of man and the anthropoids could be established. The serological differences between the blood of man and the anthropoid apes were found to be greater than between the blood of whites and negroes. The differences between man and the lower monkeys were found to be no greater than between the anthropoid apes and the lower monkeys. In the study of the blood groups in the anthropoid apes it was found possible to assign each of the twenty-one animals examined to one of the four human blood groups. The isoagglutinins of the anthropoids were found to be identical with those of human blood.

The Standardization of Vaccines.

JOSEPH W. SMITH (*Journal of Infectious Diseases*, November, 1925) compares the various methods of standardizing vaccines and recommends the counting chamber method for accuracy and uniformity. He examined several batches of typhoid vaccine standardized by Wright's method and found that the bacterial content was always lower than stated. He suggests that this is due to the impossibility of manipulating blood without losing cells. The cells settle out of suspension too quickly, they adhere to the glassware used and it is not possible to distribute the red cells evenly and uniformly on a slide. Thus, in Wright's method the estimated count becomes too high and the consequent dilution too great. On account of loss of red blood cells the ratio of cells to bacteria is not 5 : x but 2.5 : x or 3 : x. The most satisfactory counts were obtained by using a Hebler chamber. One cubic centimetre of vaccine was diluted with

three and a half cubic centimetres of buffered salt solution and half a cubic centimetre of carbol methyl violet. The mixture is heated rapidly over an open flame almost to boiling point, stoppered tightly with a rubber stopper and set aside until steaming has ceased. It is then thoroughly agitated and a small drop placed in the counting chamber and covered with a cover-slip.

A Skin Reaction in Measles.

RUTH TUNNICLIFF (*Journal of Infectious Diseases*, September, 1925) reports the production of a skin reaction with anaerobic dextrose broth cultures of the green-producing diplococcus found in measles. She has isolated this small Gram-positive diplococcus from the blood, eyes, nose, throat and sputum of patients suffering with measles during the pre-eruptive and early eruptive stages. The blood of measles patients gives a distinct increase in specific agglutinins and opsonins for this organism from the third to the eighth day following the appearance of eruption. The author found that a skin reaction was produced by this diplococcus in persons who have not had measles, but not in measles patients after the appearance of the rash or in 96% of persons who give a history of measles. The measles antigen can be neutralized in persons who have not had measles by serum of patients convalescent from measles, but not by the serum of a person who does not give a history of measles. The results obtained are considered to indicate that the Gram-positive diplococcus is of aetiological significance.

HYGIENE.

Observations on Blast Furnace Gassing.

R. C. ENGEL (*Journal of Industrial Hygiene*, March, 1925) affirms that blast furnace gas is by far the most frequent cause of gas poisoning in the steel industry. It is an odourless gas of smoke-gray colour and of a peculiar sweetish taste. Analysis shows the composition to be carbon monoxide 25%, carbon dioxide 12%, oxygen 6%, hydrogen 2%, nitrogen 55%. The author states that during a period of twelve years during which approximately twelve hundred patients have been treated, he has had no deaths, complications nor sequelae following mild or severe gassing. All the cases have been acute. Contrary to the experience of others he has not found any pulmonary complications such as pneumonia, bronchitis or oedema of the lungs, nor has he seen a patient with subsequent brain, nerve or blood sequelae. The illness records for the past two years show that among blast furnace employees there was less lost time due to pulmonary disease than among other lines of employment. The author's treatment for poisoning by this gas consists of the hypodermic injection of camphor in oil (0.18

gramme or three grains in sterile olive oil) and the application of heat to the body by an electric pad. In conjunction with this he used the inhalation of a combination of 95% of oxygen and 5% of carbon dioxide and this is superior to oxygen alone. The camphor in oil acts as a stimulus to the respiratory and vasomotor centres, thus the respiration is accelerated and deep breathing results, while the stimulus to the vasomotor system relieves the cold and chilliness of which all patients complain. The author in conclusion voices a plea that some investigator will carry out a series of experiments to determine whether or not camphor in oil has a direct influence in preventing pulmonary complications in cases of gassing.

Calcium and Tuberculosis.

MIRIAM STEWART ISZARD (*Journal of Industrial Hygiene*, November, 1925) points out that of the large number employed in occupations with exposure to dust 3-8% are exposed to dust of a comparatively high calcium content. As many have affirmed that certain calcium dusts play an important rôle in hindering the development of tuberculosis or in arresting its progress, the authoress conducted a series of experiments in order to arrive at some definite conclusion on the subject. In these the dust employed was finely powdered hydrated lime. Fifty-four rabbits were used in five groups: (i.) Normal controls, (ii.) tuberculous controls, (iii.) lime dusted animals, (iv.) lime dusted animals with superimposed tuberculosis, (v.) animals inoculated with tuberculosis with superimposed lime dust. The conclusions arrived at after these experiments were that calcium hydrate dust is not harmful to the lungs of rabbits. It apparently acts as a mild stimulant, causing the migration of macrophages which remove traces of silica present in the calcium dust. The harmlessness of calcium hydrate dust may be attributed both to its physical and to its chemical nature. The roundness of its particles prevents them from doing much injury, while their tendency to coalesce prevents many from gaining access to the finer bronchioles. Moreover the fact that it is soluble in the body fluids permits of its partial removal by way of the blood stream. When inoculation with tubercle bacilli follows a period of lime dust inhalation there seems to be a very slight retardation in the development of tuberculous lesions which nevertheless are indistinguishable from the customary lesions of this infection in rabbits. When the lime dusting occurs after the inoculation with tubercle bacilli, there is a more distinct retardation of the tuberculous development explainable possibly on the ground that the lime causes an over-production of macrophages which render inert the tubercle bacilli. As the dissolved calcium is in the blood stream always as bicarbonate and phosphate, the excess, introduced in such experiments as

have been detailed, must be deposited in those organs normally characterized by a high calcium content, such as bones, kidneys and lungs. In a tuberculous condition in which there is a calcium demineralization, any increase in calcium would tend to balance the existing deficiency and permit an approach to normal.

Toxicology of Hydrogen Sulphide.

HOWARD W. HAGGARD (*Journal of Industrial Hygiene*, March, 1925) states that hydrogen sulphide is one of the noxious gases common in industry, being nearly as toxic as cyanogen or hydrocyanic acid and that its action may be just as rapid. In very low concentrations, hydrogen sulphide is readily detected by its characteristic and disagreeable odour. The maximal olfactory stimulus is, however, reached at comparatively low concentrations and beyond this the characteristic odour does not increase in proportion to the rise in concentration. It is both extremely toxic and also irritant, causing severe local irritation of the eyes and may induce pulmonary oedema. The more severe irritant effects are, however, usually obscured by the symptoms of acute systemic poisoning. In the body it is rapidly oxidized, but the oxidation products are non-toxic. In this as in the intensity of toxicity, it compares with cyanides. Inhaled hydrogen sulphide forms no combination with nor does it in any way alter the hæmoglobin of the blood. Hydrogen sulphide is to the highest degree a non-cumulative poison; the response of respiration to inhalation of the gas is immediate and proportional to the concentration breathed. Respired air containing less than 0.1% has a negligible influence on respiration. Above this concentration active hyperpnea is induced within a few minutes. With continued inhalation the hyperpnea increases and soon terminates in respiratory failure. Concentrations of 0.2% lead to paralysis of the breathing after a breath or two and in such concentrations the victim falls to the ground as if struck down. Asphyxia develops as a result of the paralysis of breathing induced, but the heart continues to beat for several minutes after respiration has ceased. If the patient can be induced to breathe by artificial means, or if artificial respiration is maintained until the hydrogen sulphide in the blood is oxidized, normal respiration soon becomes re-established and the patient suffers little consequence. Inhalation of oxygen and 5% carbon dioxide is also particularly helpful at this stage. As regards artificial respiration it must be remembered that its use must be immediate, even a few minutes' delay being fatal. In conclusion the author mentions prophylaxis. He holds that every effort to guard against contamination of the air by hydrogen sulphide should be made as the sense of smell is not a reliable indicator of the concentration present. Complete protection against inhalation is afforded by suitable masks, while air-tight

goggles are essential to those repeatedly exposed to small amounts of the gas. When the air in a building is contaminated by hydrogen sulphide, forced ventilation or some other means of rapidly changing the air may be employed to reduce the dangers of poisoning.

A Study of Back Strains.

EDWARD B. SIMMONS AND W. IRVING CLARK (*Journal of Industrial Hygiene*, September, 1925) write that at the Norton Company, of Worcester, it is the practice to reexamine physically each year all employees who have had previous defects. These examinations have brought out many interesting facts. One of the defects which is a type of industrial accident and which has been studied and recorded, is back strain. It may become a serious problem to both employer and employee in loss of time, payment of compensation and turnover in labour. A "back strain" accident denotes an accident or injury which a workman may suffer while engaged in some kind of work such as lifting, pulling or pushing. The employee gives a history of feeling a sudden pain in the back, generally in the lumbar region. In the eight years recorded a total of one hundred and forty-three employees suffered from back strains and in only three years did the percentage ratio of back strains to the number of accidents involving loss of time fall below 10%. In one year alone it was 32%. Out of the above total twelve persons lost no working time and sixty-eight received no compensation and incurred no medical expense outside of the factory dispensary. During the period two men were so severely injured that they have not been able to return to factory work, but in both these cases a complicating spinal arthritis was the cause of the prolonged disability. The total time lost for the eight years was 2,114 days, while the longest time lost by any one man was one hundred and eighty-two days. The question as to whether any special time of the year showed a greater prevalence of lost time can be answered in the negative. All the men of whom there were records of definite back strains and who were still in the employ of the company, were subsequently called to hospital and examined. The history among other things included history of cause of back strain, date, number of days lost, last treatment, type of work, symptoms of pain, recurrence of pain and present condition. As a result of these examinations it was concluded that while there are those who as a result of back strain are unable to return to factory work, the number of such cases is small. The period of disability of those able to return to work averaged sixteen and one-half days, while the longest period of disability was seventy-four days. All these men were able to do regular work and the majority were working in the same departments as before the injury. Prolonged and complete disability is in most cases due to some complicating disease of the spine.

Obituary.

HARRY BROOKES ALLEN.

Two years ago the news of the serious illness of Professor Sir Harry Allen produced a feeling of something akin to dismay throughout Australia. He had been very ill more than a year before, but his appearance at the first session of the Australasian Medical Congress (British Medical Association), Melbourne, 1923, had reassured the medical profession both in Victoria and in the other States. In March, 1924, the reports of the alarming nature of the seizure came suddenly and from the first it was recognized that one of Australia's most creative geniuses was passing out of sight and reach. Within the Melbourne University was a hush, an anxious, breathless awaiting for the toll of the bell that would tell that the last page of the first chapter of the history of the Medical School had been completed. Outside the University the citizens started to recall many of the more popular activities and pioneer services of this great man. Day by day the imminent danger of death lessened, although no hope could be entertained of a restoration of health. The University and the world gradually became reconciled to their actual loss. The Medical School passed prematurely into the state of a ward in chancery. The work proceeded, but all knew that he who had inspired and planned it, was no longer able to watch, guide and modify it. Months passed; the world at large forgot for the moment its debt. Only his more intimate friends and relatives kept anxious vigil. His partial recovery proceeded sufficiently to enable him to accept the position of one of the Vice-Presidents of the second session of the Australasian Medical Congress, Dunedin, 1927. The race, however, was run. Harry Brookes Allen's days were numbered and in the third week of March, 1926, the light of his life began to fade. Darkness came on March 28, 1926.

The story of the life of Harry Brookes Allen is in many respects almost unique. It is one of achievement, of initiation, of mastery. His greatest work, his grand monument is the Medical School. The medical profession in Australia owes its present standing to three intrepid pioneers, Harry Allen, Anderson Stuart and Edward Stirling. A comparison of the three men is impossible, but it may be said that Harry Allen was not the least distinguished. He built wisely, largely, providently.

Harry Brookes Allen was born in Geelong on June 13, 1854. He was the second son of Thomas Watts Allen. He was educated at Flinders School, Geelong, and later at the Church of England Grammar School, Melbourne. He was brilliant as a schoolboy and what is more remarkable he was a young philosopher to whom all in difficulties and doubts turned for guidance and help. At the age of eighteen he left school and entered the University of Melbourne as a medical student. It will be remembered that the Medical School had been established nine years when Harry Allen started the career which was to recast the foundation of medical education in Victoria and to set a standard of teaching that yielded nothing to that of the established universities of the old world. This is not the place to revive the memories of the long endeavour to call the Medical School into being. A full history of its beginnings can be read in the pages of the publication issued in 1914 in celebration of the jubilee of the School. Anthony Colling Brownless was the prime mover; George Britton Halford was the first Professor and delivered his introductory lecture on May 1, 1863. The School had humble quarters at first, a shed in the yard of the Professor's residence in Madeline Street. In May, 1864, small but suitable buildings were completed. It was into these premises that Harry Allen carried his determination, ingenuity and intellectual vigour. He gained golden laurels during his student years. In April, 1876, he convinced his examiners of his knowledge and skill. Having secured the degree of bachelor of medicine, he was almost immediately placed in charge of the dissecting rooms during the mornings. Within one year he was appointed Demonstrator of Anatomy and Sub-Conservator of the University Museum of Anatomy and Pathology. Before

the close of the year he became the Pathologist at the Melbourne Hospital. The year 1876 saw an important development of the movement. The Faculty of Medicine came into being and George Britton Halford was elected Dean. Harry Allen, being a legally qualified medical practitioner and member of the Council of the University, thus secured a seat on the Faculty from its inception. Although but twenty-two years of age his judgement and knowledge awakened the admiration and respect of all his associates and it became apparent that this remarkable young man would soon exercise an unequalled influence on the affairs of the School.

Two years later he gained his doctorate and when the new degree of Bachelor of Surgery was instituted in 1879, Allen together with many other graduates had it conferred on him. About the same time he was required to act as lecturer on *materia medica* and therapeutics during the temporary absence of Dr. S. Dougan Bird. In 1880 he undertook the duties of the Professor of Anatomy, Physiology and Pathology and of lecturing and conducting examinations during the absence of George Britton Halford. In 1881 Allen and Halford drew up a report on the condition of the Medical School and included in it recommendations that the department of physiology should be separated from that of anatomy and pathology, that the two latter subjects should be divorced at an early date and that there should be chairs in each department. The Faculty of Medicine approved of these proposals, but the innovations were resisted by the Council. It was therefore decided to appoint Harry Allen Lecturer in Anatomy and Pathology.

While Harry Allen was taking a leading part in the moulding of the Medical School and in the establishment of an ideal system of medical education, he recognized that his objectives could be furthered by other educational activities. In 1879 he was elected Honorary Secretary of the Medical Society of Victoria, a body of scientific importance at that time. The Victorian Branch of the British Medical Association was founded in 1880; the two societies existed for several years as independent organizations and for a considerable time there was undoubtedly disharmony between them. The Medical Society of Victoria, the older of the two, was one of the most promising channels of post-graduate education. Allen's genius displayed itself in the manner in which he utilized its resources and exploited its machinery. He worked hard and succeeded in rendering the society a very valuable asset of the medical profession. He also realized that a medical journal is a powerful means of distributing knowledge. Although untrained in journalism he undertook the editorship of the *Australian Medical Journal* for four years from 1879 to 1883. His facile pen, his sound philosophy, his wide knowledge of medicine and especially of pathology and morbid histology and his innate power of teaching insured his success in this direction. He relinquished the position of editor in 1883 because he found that even a small monthly publication makes heavy demands on the time and energies of the individual responsible for its publication. There were also other reasons. In November, 1882, the objections of the Council of the University in regard to the appointment of a Professor of Descriptive and Surgical Anatomy and Pathology were withdrawn and Harry Allen was appointed to the chair. This appointment gave him security and authority and he was not slow in translating his ideas into action. As a result of strong representations the Government provided the sum of £10,000 for the building of a new Medical School. Harry Brookes Allen was asked to consider the requirements and to collaborate with the architect in the planning of adequate and suitable buildings for a great medical school. In the 'eighties the advantages of immediate proximity of the clinical hospital and the medical school were not realized. It is true that in London the medical schools had been brought into the grounds of the hospitals, but there was no real university. Whatever views may be held concerning the present and future needs of medical education in Melbourne, the fact that Harry Allen built the School forty-three years ago and the further fact that during all these years the School has held its own, are eloquent testimony of his wisdom and

prevision. Before this time he had taken charge of an excellent small collection of pathological specimens at the Melbourne Hospital which Smith, Wigg and his other predecessors in office had started. As pathology was the science that claimed his first attention, Harry Allen had enlarged and enriched this collection and had given it a character peculiarly his own. By systematic search and with well defined ideas concerning each group, he transformed the collection of specimens into a teaching museum of pathological material. This work entailed a very considerable amount of patient research. He was an authority on morbid anatomy and histology and based much of what he taught on the results of his observations in the *post mortem* and dissecting rooms and in the operating theatre. The museum had outgrown its accommodation at the Melbourne Hospital. Steps were taken to transfer it by deed of gift to the Medical School where it remains one of the greatest monuments to his remarkable creative powers. The transfer took place in November, 1883. At the same time it was arranged that the University should have the right to appoint a demonstrator of morbid anatomy who would be the Pathologist to the Melbourne Hospital.

When Harry Brookes Allen laid down his duties as editor of the *Australian Medical Journal*, he took up other engagements which claimed the expenditure of much energy and though in a direction not associated with teaching. He secured election to the Central Board of Health of Victoria. The legislative basis of the control of health in the Colony was eminently unsatisfactory and despite the strenuous efforts of many competent hygienists the administration failed to achieve even a modicum of success. Harsh criticism of the state of affairs would be unjust, for it will be remembered that, although the existence of bacteria had been recognized for over a century and although Pasteur had demonstrated a quarter of a century before that lactic, acetic and butyric fermentation was caused by microorganisms, it was not until 1877 that Koch described the bacillus of anthrax and in the same year as Harry Allen was appointed Professor of Anatomy and Pathology, Koch announced his discovery of the tubercle bacillus. That tuberculosis should have been in everyone's mind at that time needs no iteration. A special board was appointed by the Government of the Colony in 1883 to deal with tuberculosis in cattle and Allen was selected as one of its members. In due course this board issued a very valuable report for the drafting of which he was largely responsible. His knowledge of the disease, his interest in its prevention and his grasp of hygiene are readily recognized in this report. Within the first year of his membership of the Central Board of Health he performed some highly important services. He drew up a set of model by-laws for use by local health authorities, anticipating by many years the soundest means of protecting the public health. He endeavoured to regulate the meat-preserving industry and illustrated the reform by indicating the proper construction of freezing chambers. These early activities in the realm of hygiene and preventive medicine were interrupted in 1885 after the report on the control of tuberculosis in cattle was issued. They were revived a few years later, but he severed his connexion with the Central Health Board of the Colony in 1884.

In the year 1886 George Britton Halford resigned his office as Dean of the Faculty of Medicine and Harry Brookes Allen was elected in his stead. From this date onwards Harry Allen exerted all his energies in the moulding of the medical school and the curriculum in accordance to his conceptions of the requirements of the day. A new curriculum was devised and approved by the Faculty. Certain amendments were introduced by the Council and the proposals were then referred to a special committee of which Allen was convener. The result was to some extent a compromise, but it was not unacceptable to Allen and subsequently he made admirable use of it.

Two years later he embarked on a very heavy task which resulted in the modernizing of Melbourne. He was invited by the Government to act as President of a Royal Commission to inquire into and report on the sanitary state of Melbourne. The prevalence of enteric fever and its etiology had occupied Harry Allen's attention for several years. He realized that courage was needed to meet the

existing defects. The recommendations included the construction of a water-borne sewerage system. Although the Royal Commission sat in 1888 and 1889, the work was not actually commenced until 1897.

In 1889 he was appointed President of the Intercolonial Rabbit Commission, a position of considerable significance, since it involved the recognition of Allen's intellectual powers and wide experience beyond the confines of the Colony of Victoria.

The second session of the Intercolonial Medical Congress was held in Melbourne in the year 1889. T. N. Fitzgerald was the President and Harry Allen the General Secretary. The Associate Secretaries were Dr. (now Sir James) Barrett and Mr. (now Sir George) Syme. Allen performed his task as General Secretary with the same thoroughness and philosophical consideration as characterized all his undertakings. The duties of General Secretary of a session of Congress are very onerous and arduous, yet Harry Allen performed them to everyone's satisfaction and found time to take part in the discussions. His contribution on enteric fever is especially worthy of mention.

At this stage we find Harry Allen devising fresh methods for the teaching of medical students in the School. To him stagnation spelt retrogression and failure. He could never remain in the same position for long; progress was the essence of his very existence and at this stage of his career the rate of progress was rapid. He persuaded the Faculty in 1889 to urge the Council to separate the chair of anatomy from that of pathology. While sanction to this proposal was not immediately given, Parliament amended the *Medical Practitioners Act* in order that medical graduates and diplomates from the old country could obtain registration in Victoria. With this an accomplished fact, the University petitioned the Privy Council to recognize the medical degrees granted at the University of Melbourne. Harry Allen journeyed to England to support the petition. The Privy Council agreed to extend the provisions of the *Medical Act* to the Colony of Victoria. The General Medical Council resolved to admit to the Colonial Register of medical practitioners persons holding the degrees of bachelor of medicine and bachelor of surgery of the University of Melbourne. The mission to England served a double purpose. Harry Allen obtained what was desired, but he also had the gratification of learning that the General Medical Council regarded the curriculum which he had devised, as one of the best in existence.

The visit to Europe involved a considerable sacrifice on the part of Harry Allen. It was necessary for him to resign his office as Dean of the Faculty and Halford again accepted the post. Allen returned in 1891 and it was not until 1896 that Halford resigned and Allen was reinstated in his former office. In the meantime Dr. Thomas Cherry was appointed Demonstrator of Pathology. In the interval before Allen was again appointed Dean, Parliament refused to create a separate chair of anatomy. Whether Allen would have succeeded in altering this decision had he been in authority as Dean or not it is impossible to say. The time came later.

In 1892 Philip Sydney Jones and Harry Allen received invitations from the Executive Committee of the Eleventh International Medical Congress signed by Baccelli and Maragliano as President and Secretary to form representative committees for the purpose of organizing a strong representation of the medical profession in Australia at the Rome Congress. Later similar invitations reached prominent practitioners in the other Colonies and in New Zealand. With characteristic zeal, initiative and directness of purpose Harry Allen determined to create an Australasian committee, the first of its kind, to safeguard the interests of the profession on this side of the globe. He handled the matter with consummate diplomatic skill, with the result that Australasia and Australasian medicine were favourably represented at the Congress.

Harry Allen had again assumed the office of Dean of the Faculty of Medicine for one year when Anthony Colling Brownless, the Chancellor, died. His death left a vacant seat on the University Council. The members of the Professorial Board with one voice desired Allen to fill this

vacancy and his election followed. Two years later he seized a suitable opportunity of revising the curriculum and of instituting changes in the Medical School that would lead to the establishment of more chairs within the Faculty. The Government placed the sum of £10,000 at the disposal of the School. Harry Allen submitted a draft report on the necessary amendments of the curriculum to the Faculty. The draft was sent to the members of the staffs of the recognized clinical hospitals. Certain amendments were introduced before it was finally adopted by the Council and the Senate. We note with special interest that it was urged in the arguments for the innovations that the course was held to be overcrowded with systematic lectures to the exclusion of clinical work. The most important extension in the School at this epoch was that connected with the department of physiology. Dr. C. J. Martin had been appointed Lecturer in Physiology in 1894. Harry Allen recognized the importance of the department and encouraged Dr. Martin to build it on sound lines. He conceived that the time had arrived when preliminary steps should be taken to institute a chair of physiology. He, therefore, recommended that Dr. Martin be given the title of Acting Professor. In 1903 Dr. Martin resigned his position to take up that of Director of the Lister Institute of Preventive Medicine and Dr. W. A. Osborne was invited to fill his position. The Royal Commission on the University recommended in its report issued in 1904 the appointment of separate professors of anatomy and pathology. Behind this can be discerned the progressive spirit of Harry Allen, the determination to move onwards toward the goal of a fully equipped medical school with adequate provision for all the functions of a modern centre of medical education. Changes took place with something approaching confusing rapidity. With but small means it was impossible to remunerate a complete staff of full-time professors and teachers and part-time demonstrators. Harry Allen made full use of the highest intellectual forces within his reach and as under the then existing circumstances he could not reserve all the skilled teachers permanently for educational work, he contented himself with short periods of service and a gradual evolution of each special department. In 1906 the long sought division of the chair of anatomy and pathology was achieved. Professor R. J. A. Berry was offered the chair of anatomy and accepted the offer. Harry Allen retained the chair of pathology.

While occupied with these multifarious tasks of devising measures for the rapid development of the Medical School, Harry Allen found time and energy to concern himself with the affairs of the medical profession in Victoria. The scientific welfare of the medical profession had been in the hands of the Medical Society of Victoria during the early stages of his career. Later when the Victorian Branch of the British Medical Association had received recognition, this body endeavoured to take charge of the medico-political and medico-ethical activities of the profession. It was, however, numerically weak and strife and disharmony arose out of the attempts of each body to assume the position of representative medical organization. In the year 1893 it appeared as if the differences were too great for remedy and it became apparent that the division was creating incalculable harm to the whole profession. Harry Allen saw an opportunity to span the breach. He proffered his help as peace maker. In 1906 he drew up a deed of union between the recalcitrant parties to the quarrel and his diplomacy again led him to success. In 1907 the necessary resolutions were adopted by the Medical Society of Victoria and the Victorian Branch of the British Medical Association. Harry Allen was the first President of the combined bodies. Thanks to his good offices, the Victorian Branch of the British Medical Association was given the chance to attain its present unassailable position. The Medical Society of Victoria still exists in name and for purposes of convenience, but the real backbone of the profession is the Victorian Branch.

This strangely versatile man was occupied at the same time with another matter of prime importance of a totally different nature. In 1906 Bishop Frodsham, realizing the importance of a better control of tropical diseases in the Pacific Islands, discussed a problem with Thomas Anderson

Stuart which had claimed the attention of the latter for some time. Stuart wished to establish a school of tropical medicine in Sydney. The Bishop held that the school was needed, but that it would be more advantageously situated in North Queensland. An agreement was not reached. Bishop Frodsham then approached Harry Allen and Edward Charles Stirling. The result of these conversations was the appointment of a committee consisting of Harry Allen, Anderson Stuart, Edward Charles Stirling, Dr. Wilton W. Love, Mr. Atlee Hunt, Dr. W. P. Norris and Dr. J. S. C. Elkington. Allen acted as chairman and managed his committee with consummate skill. Anderson Stuart, though unconvinced of the wisdom of the proposal to establish the Australian Institute of Tropical Medicine in Townsville, was persuaded to withdraw his opposition. The institute was opened in 1909 under the able directorship of Dr. Anton Breinl.

The eighth session of the Australasian Medical Congress was held in 1908 in Melbourne. There is little wonder that Harry Allen was chosen to be its President; as he himself expressed it in his address, the honour was perhaps the greatest the medical profession could confer. He had built the Medical School and moulded medical education in Victoria; he had performed yeoman service in improving the health of the community in a hundred ways; he had obtained a world-wide recognition of the prowess of the medical profession in Victoria and in Australia; he had been the leader of the mass, the counsellor of the weak, the friend of all; he had achieved the difficult task of uniting the medical profession under exceptional circumstances and he still occupied the President's chair of the Victorian Branch of the British Medical Association. The choice was eminently a wise one. Those who were associated with him, were stirred to splendid effort partly by his example and precept. He did not spare himself in the onerous tasks of preparation and he triumphed in the consummation of his efforts. His address is at once a masterly essay in philosophy, a learned discourse in biology and pathology and gem of literary excellence. He covered an immensely wide range of subjects, but he was able to speak with authority, with understanding, with sincerity and with conviction on all.

At the Melbourne Congress the subject of syphilis had been chosen for special discussion. Opinions in various parts of the Commonwealth and indeed in different parts of the world were divided concerning the prevalence of this terrible disease. Harry Allen had studied it for many years, chiefly from the point of view of its morbid anatomy and histology. As a result of his observations he had evolved some very definite hypotheses and had taught his students to associate certain morbid appearances with the disease. He had met criticism and challenge and had held his own on safe, scientific grounds. At the eighth session of Congress his views were again attacked and he defended them with warmth, but without rancour. His writings on this subject are so numerous and so well known that it is unnecessary to repeat his arguments or to summarize his conclusions. But it is opportune to recall the fact that Harry Allen's insistence on the enormous frequency of the disease has been fully justified by the results of the application of the modern biological tests for syphilitic infection. In this connexion it may be mentioned that at a later date as a member of the committee appointed by the Federal Government to deal with the causes of death and invalidity in the Commonwealth, he was personally responsible for the greater part of the report on venereal diseases. This report stands as an authoritative record of the state of knowledge concerning syphilitic infection at that date. He conducted the investigations into the association of syphilis and atheroma, hyperpyrexia, chronic myocarditis and chronic nephritis.

The years that followed the Congress in Melbourne were devoted chiefly to educational work within the Medical School. He added to his wonderful museum and made it more and more perfect. Each specimen was a masterpiece and every one told its own peculiar story. Harry Allen possessed the gift of finding all that was known of disease in these specimens and of being able to impart his ample knowledge to others. He was a born teacher,

the keenest of keen observers and an enthusiast of the first rank. His enthusiasm was infective and will linger in the surroundings where he gathered and ordered his specimens of tissues and organs and wrested from them the hidden secrets of disease. In 1912 he interrupted his ordinary routine. A congress of universities was organized in close association with the sixteenth International Medical Congress, London, 1913. Harry Allen attended as the representative of the University of Melbourne and was also appointed a member of the Executive Committee of the International Medical Congress. He also attended the bicentenary celebrations of the Medical School of Trinity College of the Dublin University. The University of Edinburgh conferred on him the degree of doctor of letters *honoris causa*. His great reputation had preceded him and in London, Edinburgh and Dublin he was recognized as a pathologist of high standing, as the head of a great university and as an eminent *savant*. In the year 1914 he received the honour of knighthood, an honour richly deserved. In the same year when the Medical School was celebrating its jubilee, his contemporaries in the University presented to the School a memorial of the vast services rendered to it by Harry Brookes Allen. Mr. (now Sir George) Syme said that it might be held that "his best and most lasting monument was that which he had reared himself in the Medical School and in the magnificent museum which was to be found there. But it had been desired that the University should have a memorial of the man himself in his habit, as he lived; a very large number of graduates had commissioned Mr. Phillips Fox to paint a portrait of Sir Harry Allen to hang beside the portrait of those distinguished men who had rendered service to the University, but none with greater distinction than Sir Harry Allen." Dr. R. R. Stawell delivered an eloquent tribute to Harry Allen's greatness: "In the upbuilding of the Medical School Professor Sir Harry Allen proved himself to be a master builder of the first rank."

Then followed the dark period, the time when every child of the Empire worthy of his manhood or her womanhood performed the duties allotted to him or her. The Medical School had a heavy task in those days and the workers were few. Harry Allen realized what he had to do and he did it quietly, thoroughly, splendidly. He recognized that the supply of medical officers for the forces would not suffice unless special means were adopted to expedite the training. He restrained those splendid boys who were chafing to throw aside their books and microscopes and join as combatants and trained them rapidly, so that their services might be all the more valuable to their country. He, too, worked at a higher rate and felt the strain. Yet he found time to engage in undertakings connected with preventive medicine, the medicine of the future. As has been mentioned above he was a member of the Departmental Committee on the Causes of Death and Disability in the Commonwealth. He took a special interest in the subject of the risks of middle life and was responsible for the drafting of the report. This document appeared in 1916 and received appreciative treatment in these columns. In 1919 he published a handbook entitled: "Pathology: Lectures and Demonstrations." This production was the result of his method of instruction through many years. He made it a practice to issue to his students notes on pathological subjects with frequent references to the specimens in his museum. The teaching in his handbook was lucid, dogmatic and concise. His personality shone through its pages and every diligent student found it a treasure worthy of deep and ardent exploration.

Mention should also be made of Harry Allen's interest in the organization and development of the Walter and Eliza Hall Institute for Research in Pathology and Medicine. This institution was founded to further research in pathology and to serve the Melbourne Hospital in its clinical work. It was the intention of those associated with the foundation to place Gordon Clunes McKay Mathison in the position of Director, but a cruel fate decreed otherwise. Mathison was killed on active service, deeply regretted by all with whom he had come in contact. There was considerable delay in the opening of the institute, but eventually the services first of Dr. S. W.

Patterson and later of Dr. C. H. Kellaway, were secured and their appointment was strongly recommended by Harry Allen. Again his judgement proved to have been sound.

We have spoken of the organizer, of the teacher, of the hygienist, of the philosopher and of the scientist. It remains to add a few words of the man. Harry Allen enjoyed the affection of his colleagues from the earliest days of his association with the Medical School. He commanded respect and admiration. As a companion he was delightful, entertaining, versatile and engaging. His hospitality was proverbial, but it was without display. He had a large circle of friends and like every man of spirit some enemies. He was kind to the former and just to the latter. Nothing can efface the beneficent influence of his great and useful life, for he erected structures that must endure.

He married the second daughter of the late Henry Mason, of Liverpool. He is survived by Lady Allen and three daughters. The sympathy of the medical profession is extended to them. Their sorrow is shared by the members of the profession; his colleagues claim with Lady Allen and her daughters the right to be proud of his achievements.

Mr. Fred. D. Bird writes:

The knowledge that Harry Brookes Allen has passed from life into history will affect many and none more deeply than the writer of these notes, who was privileged in being his close friend for nearly fifty years. I have to go back to school days to remember when I had not his judgement and his ever ready advice to lean upon. It was often my experience to find my difficulty thought out in advance. The elder Scipio tells us how rare a thing it is that a friendship formed in early life succeeds in lasting till the end of life and it was indeed a rare man that caused this great gift of lasting friendship to come to me. Student walks in the Victorian forests it was that really brought us together, when the very joy of movement and the very ecstasy of living were "closer to us than breathing, nearer than hands and feet." Harry Allen to those he taught and to acquaintances did not give the idea of athleticism, but he was a beautiful swimmer, perfectly at home in the sea or river. He could throw a cricket ball over a hundred yards, a faculty given to few and his walking power was great. Though I could beat him on the side of a mountain, on the flat as in many other things, I toiled terribly after him. We had the enjoyment of much mountain scenery in each other's company—"Together both ere the high lawns appeared under the opening eyelids of the morn, we drove afield"—and I was always the awakener, as he had that heaven-sent gift of heavy sleep, almost at will, that other great ones have possessed. This faculty must have been a determining factor in his power of work. His charm as a walking companion was great and often showed in most brilliant outbursts of silence, which would devour the road for miles and when speech came, it was as golden as the setting sun. He had a very pleasing singing voice and the toughness of the track was often lessened by his songs. Much have I learnt from him in this way of poetry, anatomy, history. At one time he was my library—he read the book and I listened to its facts and his comments, need I say to my much advantage. He could tear the heart out of a book and learn its purpose as deftly as he removed the heart from a cadaver and observed the degree of its late efficiency. Truly was it more than a liberal education to know Harry Allen in those walking days.

As a lecturer Sir Harry attained the highest class. His addresses, because of absolute mastery of his subject, were marvels of conciseness and of terse knowledge packed into well ordered, well labelled portions for students' use. If a criticism were made, it would be that the lectures were too good. A very high level of teaching started the lecture and this level was maintained throughout, there was from the very ability of it all too little contrast to arrest the student mind; if he had descended a little at times or used the vehicle of humour occasionally for carrying his point, the result would have been even more impressive than the almost monotony of super-excellence. Once an unusually humorous reply from a student was too much for even the olympian professor and the lecture was broken up by

Homeric laughter in a most admired disorder. This is the only occasion known to me of a *sujet grivois* which being admitted into Allen's mental receptivity resulted in his laughing. Once only did I tell my dearest friend a story of which I thought the wit covered its somewhat *risqué* nature. It was received with a bland indifference far more devastating than any Puritan contempt and yet *ma pauvre petite histoire* was such as most men consider quite allowable as a slight help in crossing the desert of life. In earlier days it was an unforgettable treat, to have the Professor of Anatomy take one's scalpel and forceps and dissect one's part. The demonstration partook of the nature of a stately Roman triumph of anatomy, not of the Walpurgis night that others of us made of it. However, even these heights of anatomy were passed, when he climbed his greatest peak, the expositions he held at *post mortem* examinations at the Melbourne Hospital. This was to see him as the perfect master. He showed everything in the thorax and abdomen in the most possessive way. He had the intimate knowledge that a Bréguet had of his favourite creations in clocks, as if this side blasphemy, the body were the work of his hands and he had made it. This elucidation of the architecture and furnishings of the human body was to me Allen's grandest work. The absolute control of the material in which his busy fingers were explanatorily working proclaimed the complete master. He did not have that curious mental sense disproportion, which induced a Goethe to look upon his work on optics as his masterpiece, or a Newton to admire his theological studies as his finest effort; as he once confided to me that he thought these demonstrations his best work. Would he had given even more of them. His pathological knowledge is embalmed in a book of crystalline clearness and precision and in the contents of his monumental museum. The many thousands of specimens made into museum form by his own hands were as dear to him as ever were the red deer to the Red King William. It was not, however, only in detail that his pathological knowledge sensed itself. He it is who more than any other has shown how deep a shadow the ever hanging cloud of syphilis casts upon humanity. His *post mortem* room pronouncement that a spleen or a liver had "too much fibrosis" became a tag for student merriment, but what a widely spread truth it contained. The transcendental element in his great grasp of pathology was shown in his picture of Nature, passing by infinite gradations from the clear cut beneficence of a normal breast through tumours called innocent, through eccentric overgrowths to the last malignant anarchy of carcinoma, in which even are deepening depths of chaotic confusion. His strategic gaze over the pathological field did not prevent him seeing with exactness the tactical truth of the specimen before him and with that of his great friend Mollison, his opinion of a specimen would never stray beyond what he thought was the nearest approach to the truth in it. He knew as a scientist that absolute truth was not for us mortals. His acumen with microscopic appearances of tissue was great and I know has often been the source of wonderment to skilled observers. There was nothing small or petty about the rare mental endowment which he handled so masterfully. To me who knew him so well, the impression always was that not only was I dealing with a very well trained mind, but was in the presence of a mind, the amplitude of which was the largest I had met. He was capable of unusual detachment of mind, he might have often been in another millennium of time and in another planet of space, so free was he from the trammels of immediate surroundings, things which entangle most of us. Allen's limit of work was profound and his third decade revealed his capacity most. What a fire his must have been to afford room for so many irons as he introduced to it. His powers of organization were on a par with his other excellences and details never overpowered him as they do smaller men. The business before a faculty, a committee or a meeting flowed like the smooth-sliding Minicius when Allen was in the chair. As Dean of the Faculty of Medicine for many years his University dealings were always characterized by a strong spirit of justice and in all things he was like Wilberforce always on the side of the angels, the double

furnishing of whose shoulder girdles did not worry his anatomical sense.

Whether the future of our University be obscured by mists in the uncertain years to come or whether it develop in a clear sky, it will either cause the figure of Harry Allen to loom larger in its story or to irradiate his truly great mental personality with even clearer light.

The historian of our Medical School in showing how inordinately large a part our Allen played in its development, must perforce end his estimate of him with the words: "There was a giant in those days."

ROBERT JOHN STEVENSON.

We regret to announce the death of Dr. Robert John Stevenson which occurred at North Adelaide, South Australia, on March 14, 1926.

ROLAND MASTAI LANE.

We announce with regret the death of Dr. Roland Mastai Lane, which occurred at Balwyn, Victoria, on March 14, 1926.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazettes*, Numbers 1, 2, 8, 9, 12, 17 and 20, of January 7, 14, 28, February 4, 11, 25, and March 4, 1926.

PERMANENT NAVAL FORCES OF THE COMMONWEALTH (SEA-GOING FORCES).

Confirmation in Rank.—Surgeon-Lieutenant (on probation) Lionel Lockwood, M.B., B.S., is confirmed in the rank of Surgeon-Lieutenant, with seniority in rank of 12th November, 1924.

Confirmation in Rank.—Surgeon-Lieutenant (D) (on probation) John Ellis Richards is confirmed in the rank of Surgeon-Lieutenant (D), with seniority in rank of 1st December, 1924.

Extension of Appointment.—The appointment of Surgeon-Commander Charles Arthur Gayer Phipps, R.N., as Director of Naval Medical Services, with the rank of Surgeon-Captain, is extended for a period of one year from 24th November, 1925, with pay and allowances during this period as prescribed in Naval Financial Regulations for an officer of his substantive rank (Surgeon-Commander) and seniority.

AUSTRALIAN MILITARY FORCES.

First Military District.

Australian Army Medical Corps.

To be Captain.—William Gillbee Brown, 21st October, 1925. Major R. M. Allan, M.C., is transferred to the Australian Army Medical Corps Reserve, Third Military District, 20th October, 1925.

Australian Army Medical Corps Reserve.

Honorary Captain J. H. Blackburn is transferred from the Australian Army Medical Corps Reserve, Third Military District, 10th December, 1925.

Second Military District.

Australian Army Medical Corps.

The resignation of Captain H. M. Hollingworth, M.C., of his provisional appointment is accepted, 2nd December, 1925.

Majors W. T. Newton and L. H. Hughes and Captains J. T. Paton, A. G. Brydon and L. Bamber are appointed from the Australian Army Medical Corps Reserve, 5th January, 1926.

Majors W. T. Newton and L. H. Hughes are supernumerary to the establishment of Majors, with pay and allowances of Captain, 5th January, 1926.

Lieutenant-Colonel C. E. Wassell, D.S.O., is transferred to the Australian Army Medical Corps Reserve, 1st January, 1926.

Captain E. P. Holland is appointed from the Australian Army Medical Corps Reserve, 8th February, 1926.

Captain A. M. Aspinall is transferred to the Australian Army Medical Corps Reserve, 2nd February, 1926.

Captain S. P. Lyttle is transferred to the Australian Army Medical Corps Reserve, 16th February, 1926.

Australian Army Medical Corps Reserve.

To be Honorary Captains.—Honorary Lieutenants C. R. Smith, D. B. Loudon, W. J. Chapman, F. A. E. Lawes, and H. W. T. Chenhall, 1st January, 1926.

Lieutenant-Colonel J. B. Moore is placed upon the Retired List with the honorary rank of Colonel, and with permission to wear the prescribed uniform, 8th February, 1926.

Honorary Major J. M. Gill and Honorary Captain A. Henry are retired under the provisions of Australian Military Regulation 152 (1), 8th February, 1926.

Unattached List.

Lieutenant (Honorary Captain) A. S. Evans is transferred to the Australian Army Medical Corps Reserve and to be Honorary Captain, 6th January, 1926.

Third Military District.

Australian Army Medical Corps.

To be Captain.—Lieutenant J. G. Hayden, 10th December, 1925.

The provisional appointments of Captains J. H. Body, H. G. Furnell and G. A. Penington are confirmed.

The provisional transfer from the Melbourne University Rifles, 4th Division, of Captain A. N. Jacobs, M.M., is confirmed.

The age for retirement of Captain P. Shaw is extended for a further period of one year from 1st January, 1926.

Captain S. O. Cowen is appointed from the Australian Army Medical Corps Reserve, 22nd January, 1926.

To be Captains (provisionally).—Stanley Arnold McKenzie and Colin Ferguson Macdonald, 22nd January, 1926.

To be Lieutenant (provisionally).—Edward Alfred Daley, 22nd January, 1926.

To be Captain (provisionally).—Arthur Hamill Green, 22nd January, 1926.

Lieutenant-Colonel H. J. Williams, D.S.O., ceases to be seconded, 31st March, 1925.

Lieutenant (provisionally) J. J. Searby is transferred to the Australian Army Medical Corps Reserve, and to be Honorary Lieutenant, 22nd January, 1926.

The provisional appointment of Captain M. Jacobs is confirmed.

Captain A. N. Jacobs, M.M., is transferred to the Australian Army Medical Corps, Fifth Military District, and is supernumerary to the establishment pending absorption, 6th January, 1926.

Major M. W. Cave, D.S.O., is transferred to the Unattached List, 22nd January, 1926.

Australian Army Medical Corps Reserve.

Captain A. H. Guymer is transferred from the Australian Army Medical Corps, Fourth Military District, 10th December, 1925.

Honorary Captain J. H. Blackburn is transferred to the Australian Army Medical Corps Reserve, First Military District, 10th December, 1925.

To be Honorary Captains.—Honorary Lieutenants B. H. Quin, W. A. Collopy, H. N. Mortensen, H. H. Whitehead, G. J. Kennedy, E. M. Ettelson and K. H. Hadley, 1st January, 1926.

Major R. M. Allan, M.C., is transferred from the Australian Army Medical Corps, First Military District, 20th October, 1925.

Lieutenant-Colonel W. P. Norris and Major H. B. Lee, D.S.O., M.C., are placed upon the Retired List, with permission to retain their ranks and wear the prescribed uniform, 2nd February, 1926.

Honorary Captains R. Mailer and G. E. Cussen are retired under the provisions of Australian Military Regulation 152 (1), 26th January, 1926, and 21st February, 1926, respectively.

Fourth Military District.

Australian Army Medical Corps.

Captain M. R. Finlayson is transferred to the Unattached List, 17th November, 1925.

Australian Army Medical Corps Reserve.

Captain A. H. Guymer is transferred to the Australian Army Medical Corps Reserve, 3rd Military District, 10th December, 1925.

Unattached List.

Colonel H. A. Powell, C.M.G., V.D., is placed upon the Retired List, with permission to retain his rank and wear the prescribed uniform, 31st January, 1926.

Fifth Military District.

Thirteenth Mixed Brigade—Staff.

Major J. Bentley, M.C., Australian Army Medical Corps, is re-appointed Deputy Assistant Director of Medical Services, Mixed Brigade Headquarters, for a period of one year from 1st January, 1926.

Australian Army Medical Corps.

Captain A. N. Jacobs, M.M., is transferred from the Australian Army Medical Corps, Third Military District, and to be supernumerary to the establishment pending absorption, 6th January, 1926.

Australian Army Medical Corps Reserve.

To be Honorary Captains.—Walter Percy White and Alfred Laurence Johnston, 1st December, 1925.

Honorary Captain W. P. Birmingham is retired under the provisions of Australian Military Regulation 152 (1), 20th December, 1925.

To be Honorary Captain.—Arthur Albert Hill, 1st December, 1925.

To be Honorary Lieutenant.—Frederick Howard Vincent, 1st December, 1925.

Lieutenant T. A. M. Wilson is placed upon the Retired List with permission to retain his rank and wear the prescribed uniform, 14th December, 1925.

Sixth Military District.

Australian Army Medical Corps.

The provisional appointment of Captain F. A. Ferris is confirmed.

Correspondence.

AUSTRALIAN MEDICAL HARBINGERS.

SIR: I am sure all have read with much interest the article on James Cook and the Australian Medical Harbingers, by Dr. Norman J. Dunlop, in your issue of September 19. We look forward also to other interesting papers on Australian medical history from his pen. He has shown clearly that Cook was indebted to members of the medical profession for the measures he adopted in combating scurvy.

Dr. Dunlop has also pointed out that hitherto practically the entire credit has been given to Captain Cook himself. This is borne out by Admiral Wharton's statement in Captain Cook's "Journal." In the introduction he

speaks of the suppression of scurvy as being Cook's greatest triumph—"That it should be left to a man of little education to discern that combination of means by which this enemy of long voyages could be conquered, is the most remarkable thing about this remarkable man." It required great tact on Captain Cook's part to induce the seaman to take the trouble and precautions he deemed necessary. *Sauerkraut* was amongst the antiscorbutics carried. Cook says (page 59, "Journal"): "The *Sauerkraut*, the men at first would not eat it, until I put it in practice—a method I never once knew to fail with seamen—and this was to have some of it dressed every day for the cabin table, and permitted all the officers, without exception, to make use of it, and left it to the option of the men either to take as much as they pleased or none at all; but this practice was not continued above a week before I found it necessary to put every one on board to an allowance; for such are the tempers and disposition of seamen in general that whatever you give them out of the common way—although it be ever so much for their good—it will not go down, and you will hear nothing but murmurings against the man that first invented it; but the moment they see their superiors set a value upon it, it becomes the finest stuff in the world and the inventor an honest fellow. Wind easterly."

Yours, etc.,

J. B. CLELAND.

Department of Pathology,
The University of Adelaide,
January 27, 1926.

THE TREATMENT OF BOILS.

SIR: In reply to Dr. Gilbert Bradley's letter (THE MEDICAL JOURNAL OF AUSTRALIA, February 20, 1926) inquiring as to the treatment of boils, I note that he mentions that he has not tried X ray treatment; this I should strongly recommend him to do.

The extremely beneficial results which are being reported from time to time in current medical literature, I can corroborate from personal practical experience.

The technique I have found as satisfactory as any is a sub-erythema dose of X rays, unfiltered, applied to the boil and surrounding area. This almost invariably produces a rapid abortion of a very early boil; in one that is "going strong" the result is usually, though not necessarily, an exacerbation of pain for a few hours followed by complete relief and quick resolution of the inflammatory process, either aborting the boil or accelerating the formation and discharge of the slough. Another result is a lessened tendency to the appearance of other boils in the irradiated area.

The results are really so gratifying with radiotherapy that this form of treatment should be more widely known and made use of in this painful and common affliction. Of course, general tonic, dietetic and hygienic measures are indicated as well.

It is perhaps superfluous to add that the treatment is best left to a radiologist.

Yours, etc.,

H. CAREW NOTT.

February 23, 1926.

SIR: Whilst a quite junior practitioner hesitates to enter the very difficult fields of medical controversy, the fact that one has recently had an opportunity of studying the question under discussion, the treatment of boils, may serve as an excuse and apology.

During my term as resident dermatologist at an English hospital last year well over a hundred cases of furunculosis were treated in our out-patients' department. The method of treatment was the same in each case, intramuscular injections of colossal manganese. One cannot recollect seeing more than half a dozen of those cases fail to respond to the drug.

Colossal manganese is put up in two solutions which are mixed in an equal amount in the syringe before in-

jection. The usual dose is 1.5 cubic centimetres of the mixture given every four days for three doses. Usually one such course is sufficient, but if necessary it can be repeated after a lapse of a week.

The honorary dermatologist of the hospital told me that he carried out a test a few years ago on the treatment of boils by autogenous vaccines and manganese. The latter preparation gave infinitely better results.

It may be worth recording that within the last four months I have treated nine cases of boils three of which were cases of many months' standing. Eight cases cleared upon the completion of their course of colossal manganese injections. The remaining case was a male, aged twenty-nine years, a heavy drinker whose work was of a particularly dirty character. He was given another course of injections and requested to refrain from work and alcohol till the condition cleared up, which it did in a very short time.

Yours, etc.,

KEITH L. BARRY.

Catherine Hill Bay, New South Wales,
March 19, 1926.

SIR: I think those who have never tried it might find the French "specific" for boils, "Stannoxyd," very helpful.

I don't fancy it is well known to most medical men in this country. It was recommended to me by a patient of mine whom it had cured (in association with an autogenous vaccine) of protracted and intractable boils. He had found it most efficacious. I was, myself, a sufferer from obstinate though not severe boils at the time. I took about eight or twelve "Stannoxyd" tablets in the course of two or three days and whether "post hoc" or "propter hoc" I cannot say, but the pain almost immediately disappeared from the boils and they had healed in two or three days.

The claims for it in the leaflet enclosed with the phial are, as usual in advertisement literature, very high. However, a quite considerable list of references to this treatment in French medical literature is given, as well as an article in *The Lancet* of January 19, 1918. Martindale and Westcott, in their 1924 Edition, Volume I, page 860, under "Supplementary List of Drugs," write as follows:

"Stannoxyd Tablets" contain metal tin and oxide of tin. Dose 4-8, children 2-4 *per diem*, at any hour in the day, either in water or eaten dry. 2 c.c. ampoules for intramuscular injection, also liquid for internal use, are made.

Uses.—In staphylococcus infections—boils, carbuncles, furunculosis, acne, styes—effect stated to be remarkable; "cures" effected by the fifth or sixth day. Stated to be harmless and specific. Has also been suggested for use in anthrax.

It has been found that tin workers never suffer from boils. Powdered tin is a popular remedy for this complaint. In France, Gregorie and Frouin tried doses of from 0.5 to 1 gramme of powdered tin or oxide of tin in fifty cases with cures in five to fourteen days.

Yours, etc.,

J. BEAN.

Undated.

THE ADMINISTRATION OF ETHER IN OPERATIONS OF THE LUNG.

SIR: In reply to Dr. Watkins's letter appearing in your journal, February 20, 1926, I would like to state the following facts.

That when one is using intratracheal insufflation, the pressure at which the machine blows off, is not the pressure at which the mixture is being delivered to the lungs. The mercurial pressure gauge is purely a safety valve.

The ordinary pressure at which ether is being supplied to the lungs is about seven millimetres or less, but if any obstruction takes place, there is a maximum pressure at which the machine blows off.

Just the same as in a railway engine, if the steam is being delivered, say, at seventy pounds to the square inch

and this is cut off, the safety valve will blow off, at which ever pressure it is set at, say, one hundred and forty pounds to the square inch, but the boiler is not being submitted to this strain as a rule.

In operations on the lungs high pressures are only required for a very short time, to inflate the lungs sufficiently to bring the visceral pleura to the surface and I think that if Dr. Watkins had tried it he would have found that in certain cases it would have been necessary to use high pressures to accomplish this.

All I can say that occasionally I have had to use high pressures for a few moments and have had no trouble and Meltzer experiments go to prove the same fact.

Re Dr. Watkins's case of the child who developed extreme cyanosis on introducing a catheter. This is by no means rare and if it occurs the catheter should be immediately withdrawn.

The cause of this condition is laryngeal spasm and is not due to the catheter being so big as to occlude the airway.

It never occurs after twelve years of age.

If the child has been sufficiently deeply anesthetized, it will not occur and if Dr. Watkins uses a catheter of small calibre, say 6-8 Belfast linen, he will not have this trouble again.

The spasm is sometimes so severe that I have seen the lumen of a new catheter completely occluded. Just as if the catheter had been bent at right angles.

I must thank Dr. Watkins for pointing out my error re the specific gravity of mercury.

Yours, etc.,

M. C. LIDWELL.

139, Macquarie Street, Sydney.

February 25, 1926.

Public Health.

THE INTERNATIONAL HEALTH BOARD OF THE ROCKEFELLER FOUNDATION.

THE INTERNATIONAL HEALTH BOARD OF THE ROCKEFELLER FOUNDATION has issued its eleventh annual report covering the period January 1, 1924, to December 31, 1924. Dr. George E. Vincent, the President, has also published a review of the work undertaken by this vast organization during that period. As is well known the Rockefeller Foundation extends its activities in many directions. It is concerned with the public health in many parts of the globe chiefly from the point of view of preventive medicine, but also from the clinical and curative standpoint. It is concerned in medical education not only in individual schools, but also by the upkeep of its fellowships.

Its activities during 1924 are described by Dr. Vincent. During this year it underwrote a plan for publishing an international abstract journal of the biological sciences to the amount of 350,000 dollars. In addition to issuing bulletins reporting progress in medical education in many countries it assisted in the spread of international knowledge about medical equipment and teaching methods through surveys undertaken by members of its staff, by commissions of scientists, by visiting professors and by travelling fellow. It has taken a share in the development of the medical schools of the Universities of Oxford, Cambridge, Edinburgh, Wales, Montreal, McGill, Sao Paulo, Hong Kong and Siam and of the American University of Beirut. It has done a great deal for China. It has maintained a modern medical school and teaching hospital at Peking, it has rendered assistance to three other medical schools and seventeen hospitals and has helped to improve the teaching of physics, chemistry and biology in two Chinese and nine other institutions. It has taken a part in the training of hygienists and in nursing education in Harvard and Yale Universities and in European schools and institutions. It has maintained a mobile staff to deal with the yellow fever problem in Mexico and Central

America and at the request of Brazil joined in an attack on this disease in eleven centres along the northern coast of that country. It has made malarial surveys in such widely distant places as Brazil, Italy, Palestine, Queensland and Philippine Islands. Its work in connexion with hookworm in many countries has been maintained. It has provided fellowships either directly or indirectly for eight hundred and sixty-four persons from thirty-three different nations. It has taken a share in mental hygiene work in the United States and in Canada and in anti-tuberculosis work in France. Other activities of the foundation are enumerated, but these need not be recorded in detail.

In discussing the guiding principles and the policy of the foundation Dr. Vincent points out that the trustees administer a fund which represents one and a half dollars for every person in the United States. For the present effort is centred on public health and medical education, but the trustees keep steadily in mind the possibility that in time other spheres of activity may also offer opportunities. He also refers to a guiding principle in regard to work in foreign countries which has repeatedly been mentioned in this journal. The International Health Board withdraws entirely from a project as soon as it has become self-directing and self-supporting. The Board's share gradually becomes less and finally the Government of the country takes over the whole burden.

During the year 1924, the receipts of the Rockefeller Foundation were nearly fifteen million dollars. Approximately six and a half millions consisted of credit balance from the previous year. In the expenditure side of the statement it is seen that the International Health Board spent two and a half million dollars. Upwards of one million dollars were spent in China. Of this sum only thirty-six thousand dollars were spent on building and equipment. The remainder was spent in the upkeep of the Peking Medical Union College, in fellowships, scholarships, hospital grants and administration. Two million dollars were spent by the Division of Medical Education. The International Health Board spent nearly two million dollars in the control of hookworm, malaria and yellow fever, in county health work, laboratory service and public health administration. Many of the other activities of the Foundation are enumerated. It is interesting to note that a sum of \$2,306-00 was spent on a study of Australian aborigines.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of the *Medical Act*, 1912 and 1915, as duly qualified medical practitioners:

Macpherson, James Simpson, C.M.G., L.R.C.P. (Edinburgh) 1886, L.R.C.S. (Edinburgh) 1886, L.F.P.S. (Glasgow) 1886, Redhill, Burrowa.

Weaver, Rupert Gordon, M.B., B.S., 1924 (Univ. Melbourne), June.

VICTORIA.

THE undermentioned have been registered under the provisions of Part 1 of the *Medical Act* 1915 as duly qualified medical practitioners:

Angus, William Roy, M.B., B.S., 1923 (Univ. Adelaide), Nhili.

Ick-Hewins, Edwin Theophilus Jesse, M.B., 1898, B.S., 1899 (Univ. Melbourne), Lakes Entrance.

Additional Diplomas Registered.

Brodie, Robert Charles Espinasse, F.R.C.S. (Edinburgh), 1924.

Chambers, John Ferguson, M.D., 1925 (Univ. Melbourne).

Jacobs, Hubert Sydney, M.D., 1925 (Univ. Melbourne).

Congress Notes.

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

IMPORTANT information for those who hope to attend the second session of the Australasian Medical Congress (British Medical Association), Dunedin, 1927, will be published in this journal some time in April. In the same issue a form of application for membership will be found. This form should be filled in, detached and forwarded at once in order to facilitate the work of the Executive Committee.

Medical Appointments.

Dr. Herbert Eustace Clarke (B.M.A.) has been appointed a Justice of the Peace for the Mount Margaret Magisterial District, Western Australia.

Dr. F. A. Hadley (B.M.A.) has been appointed a Member of the Board of Management of the Perth Hospital.

Dr. Edward Lloyd Davenport Parry (B.M.A.) has been appointed Government Medical Officer at Moree, New South Wales.

Dr. Arthur Douglas Reid (B.M.A.) has been appointed Officer of Health for the District of Crafters, South Australia.

Dr. Henry Rogerson (B.M.A.) has been appointed Acting Medical Superintendent of the Hospital for the Insane, Kew, Victoria.

Dr. C. N. Atkins (B.M.A.) has been appointed Acting Chief Quarantine Officer (General), Tasmania.

Dr. Alfred Fay Maclure (B.M.A.) has been appointed a Member of the Dental Board of Victoria.

Books Received.

CLINICAL NOTES AND DEDUCTIONS OF A PERIPATETIC: BEING FADS AND FANCIES OF A GENERAL PRACTITIONER, by Mary C. de Garis, M.D., B.S. (Melbourne); 1926. London: Baillière, Tindall and Cox. Crown 8vo., pp. 192. Price: 7s. 6d. net.

AVIATION MEDICINE, by Louis Hopewell Bauer, A.B., M.D.; Published by authority of the Surgeon-General; 1926. Baltimore: The Williams and Wilkins Company. Royal 8vo., pp. 256, with illustrations. Price: \$7.50 net.

THE PRACTICAL MEDICINE SERIES, COMPRISING EIGHT VOLUMES ON THE YEAR'S PROGRESS IN MEDICINE AND SURGERY: Under the General Editorial Charge of Charles L. Mix, A.M., M.D.; Volume IV.: Pædiatrics, Edited by Isaac A. Abt, M.D., with the Collaboration of William I. Fishbein, M.D.; 1925. Chicago: The Year Book Publishers. Crown 8vo., pp. 390, with illustrations. Price: \$2.25 net.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxii.

CHILDREN'S HOSPITAL, CARLTON: Clinical Assistants to Honorary Physicians (Five); Clinical Assistants to Honorary Surgeons (Three).

RICHMOND DISTRICT HOSPITAL, QUEENSLAND: Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C. 1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary B.M.A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- APR. 13.—Tasmanian Branch, B.M.A.: Branch.
APR. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
APR. 19.—New South Wales Branch, B.M.A.: Organization and Science Committee.
APR. 20.—Tasmanian Branch, B.M.A.: Council.
APR. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
APR. 21.—Western Australian Branch, B.M.A.: Branch.
APR. 23.—Queensland Branch, B.M.A.: Council.
APR. 27.—New South Wales Branch, B.M.A.: Medical Politics Committee.
APR. 28.—Victorian Branch, B.M.A.: Council.
APR. 29.—New South Wales Branch, B.M.A.: Branch (Ordinary).
APR. 29.—South Australian Branch, B.M.A.: Branch.
MAY 4.—Tasmanian Branch, B.M.A.: Council.
MAY 5.—Victorian Branch, B.M.A.: Branch.
MAY 5.—Western Australian Branch, B.M.A.: Council.
MAY 6.—South Australian Branch, B.M.A.: Council.
MAY 7.—Queensland Branch, B.M.A.: Branch.
MAY 8.—New South Wales Branch, B.M.A.: Ethics Committee.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

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